

Informatics

An e-GOVERNANCE PUBLICATION FROM NATIONAL INFORMATICS CENTRE



| Himachal Pradesh State

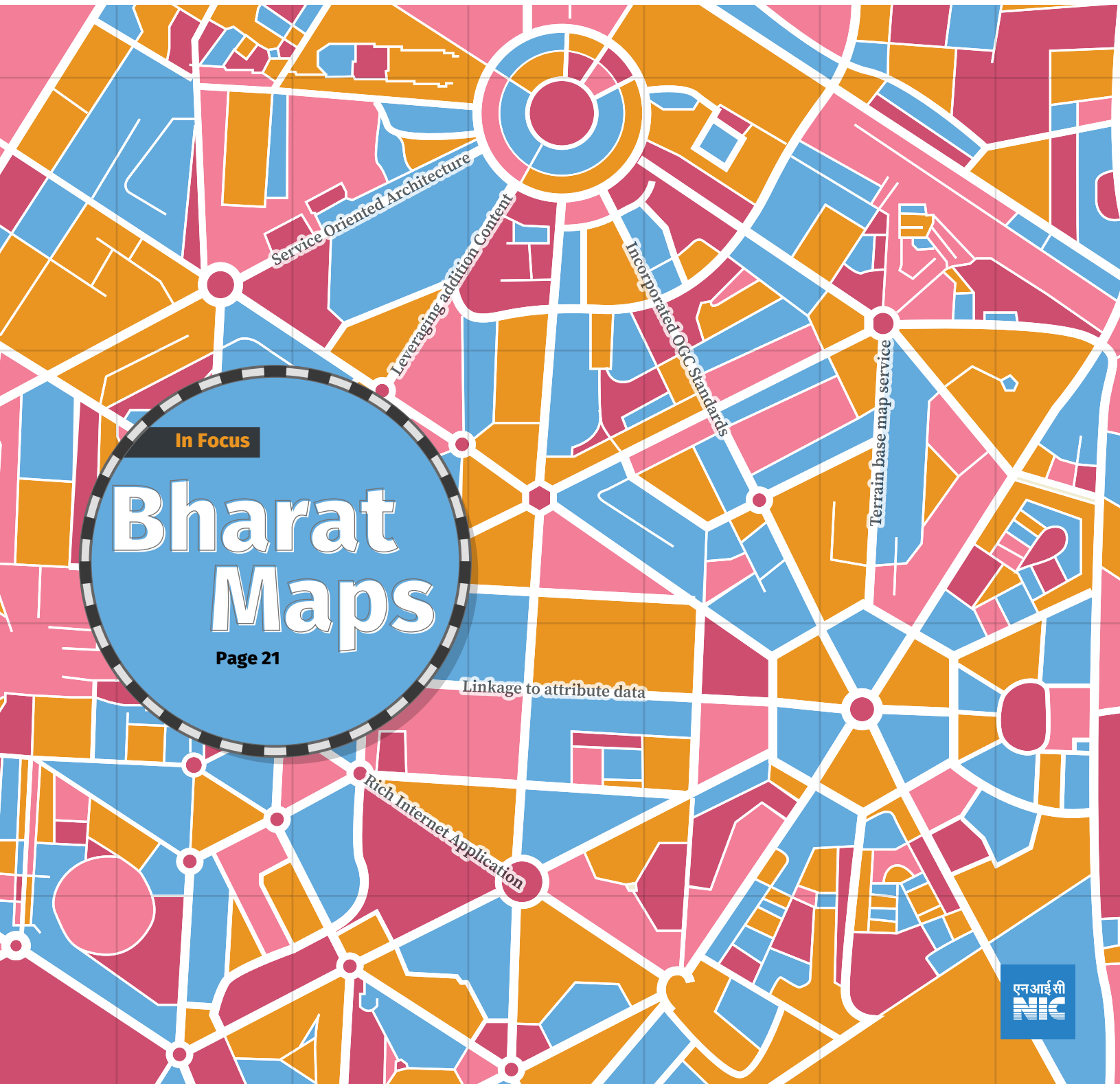
| Patiala District, Punjab

| mParivahan

| Ajmer District, Rajasthan

| NGT Online Portal

| NGD Registration System



In Focus

Bharat Maps

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The history of humanity bears testimony to how maps have helped in multiple ways. Explorers have used maps to chart new territories, administrators have used maps to track lands within their jurisdiction, and also to assess revenue sources such as from agricultural and other yields. Maps have also found use in indicating the levels of elevation, rainfall, temperature etc.

With evolution of digital technology, the potential use of maps has scaled new dimensions, as evidenced in practical applications such as remote sensing using satellites. This can further enrich the very basic layer of a map by superimposing with other relevant data to predict weather patterns, report on real-time vehicular traffic to optimize travel times, gauge the levels of sub-terrainial resources like minerals, water etc., and enable data-driven decision making on the effective use of such resources.

Bharat Maps is NIC's initiative in Geographic Information Systems (GIS) to enable and boost the effectiveness of government entities in mapping the rich, diverse, dispersed resources of our country and making possible their desired utilization. Check out this Issue's **In Focus** section unveiling an insightful feature on Bharat Maps.

Our Hon'ble Minister, Shri Ravi Shankar Prasad was on a visit to NIC Headquarters recently and inaugurated NIC's Software Quality Lab. He further interacted with the senior officers of NIC. A visual coverage of the same is presented in the first **Spotlight** of this Issue.

Having completed two years of its Webinar Series, NIC commemorated the launch of the knowledge platform in an event at NIC HQ. The top performers were felicitated by Dr. Neeta Verma, DG, NIC. This is featured in the second **Spotlight**.

NIC e-Governance projects in the State of Himachal Pradesh have been focused in **From the States** section. **District Informatics** section highlights ICT advancements in Ajmer District of Rajasthan and Patiala District of Punjab. Articles covered in the **e-Gov Products & Services** section are National Generic Document Registration System, m-Parivahan, NICCI Chatbot Service and NGT Online Portal. **Appscape** details eight Apps introduced for citizens and specific authorities. International **e-Gov Update**, **In The News** and **Accolades** sections also bring to you some interesting reads as always.

We constantly strive towards offering an enriching experience to our readers. Your support in the form of suggestions and feedback will be highly appreciated. Please do write back to us at editor.info@nic.in.

Here's wishing you a very happy new year and joyous time ahead.

Editor



Ajay Sawhney, IAS

Secretary
Ministry of Electronics & Information Technology
Government of India



In a developing country like ours, Information and Communication Technology (ICT) is fast progressing to become more agile and productive in delivering citizen-centric services. Digital India, an ambitious concept, articulated in the year 2014 is considered critical in shaping a new India. The ICT driven solutions form the fuel for the transformation of a society into a digitally empowered one. Our government has come a long way with the significant role and support rendered by the Ministry of Electronics and Information Technology.

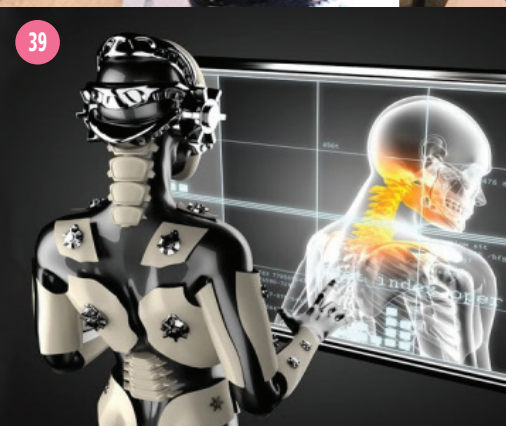
NIC has been a major support for the Government's e-governance efforts by setting up state-of-the-art ICT infrastructure and providing ICT enablement systems. Through successful use of Artificial Intelligence, Data Analytics, Machine Learning and Cloud Technology, the organization plays a vital role in reinventing the last mile delivery of citizen-centric services. From helping increase the visibility of government welfare schemes to supporting better decision-making, NIC has followed a nimble approach to attain a comprehensive picture of the problems and possible solutions. Through ICT solutions, it has enabled people to become more self-sufficient in resolving critical issues. Each of the NICians should be extremely proud for being a part of the various endeavors of the Government in the pursuit of its mission of creating a digitally empowered society.

As we begin the New Year that also marks the start of the third decade of the 21st century, let us renew our collective will to collaborate and excel in delivering the best of technology solutions for building an empowered India.

Wishing you a very Happy New Year and a splendid time ahead.

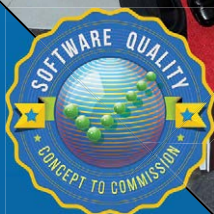
- Ajay Sawhney





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Hon'ble Union Minister Shri Ravi Shankar Prasad Visits NIC HQ Inaugurates Software Quality Lab

-  Reviews NIC's products, services & platforms
-  Aspires his vision and future plans
-  Senior Officers of MeitY & NIC took part

Read the news feature at
<https://informatics.nic.in/news/1206>

HIMACHAL PRADESH

Leveraging ICT for better e-Governance and delivering enhanced services to citizens

Edited by **SARBJEET SINGH**

NIC Himachal Pradesh has developed two national level products of Manav Sampada and Mid Day Meal Automated Reporting System, which are replicated in 17 other states. The Competency Centre for Mobile App Development, NIC Himachal Pradesh has developed 64 Apps on Android and 26 on iOS platforms, including Apps for national projects and other states. With limited resources, the NIC HP State Centre tries to maximize quality work.

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Himachal Pradesh, the Land of Gods and rightly called Dev Bhoomi, is a beautiful, peace-loving and progressive State situated in the Northern part of India. A home to various hill stations, Himachal is a favorable tourist destination that enamors travelers with its snow-clad mountains and green landscape. Besides, many famous temples make it ideal from pilgrimage perspective.

Located in western Himalayas, the State shares boundaries with Union Territories of Jammu & Kashmir and Ladakh in the North, Punjab in the West, Haryana in the Southwest, Uttarakhand in the Southeast and international boundaries with the Tibet region in the East.

NIC Himachal Pradesh came into existence in the year 1988, and in the same year, all the District Centres were made operational. Since inception, NIC HP has been acting as a backbone of Information and Communications Technology (ICT) activities and providing support to the State Government. NIC has its presence in the tribal districts of Lahaul-Spiti and Kinnaur, which are snow bound for almost six months and are cut off from rest of the world, thereby necessitating the need for the ICT infrastructure. NIC has offices at HP Vidhan Sabha, HP High Court and HP Institute of Public Administration.

ICT Support to the Hon'ble Chief Minister's Office

Him Pragati portal (<https://himpragati.nic.in>) has been developed for the Hon'ble Chief Minister's Office. Shri Jai Ram Thakur, Hon'ble Chief Minister, Himachal Pradesh, in his budget speech,

had promised to provide project proponents with a platform to help them find resolutions for their problems. As of now, a total of 841 projects with an estimated cost of Rs. 1,14,550 crore are registered, and 223 out of 303 tasks have been completed. The project execution agencies can raise concerns, which are converted into tasks for implementation of corrective actions by the concerned departments.

Jan Manch

The Government of Himachal Pradesh launched a new initiative "Jan Manch" in June 2018. On first Sunday of every month, Jan Manch is organized simultaneously at 12 places covering all districts



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NIC HP is doing a great job for the State Government and has developed projects such as Manav Sampada and MDM-ARMS, which have been replicated in other states. NIC State Centre and District Units have helped the State in achieving the PM KISAN targets in a very short time.

Dr. RAM LAL MARKANDA

Hon'ble Minister for IT, Agriculture
& Tribal Development
Government of Himachal Pradesh

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and one assembly segment in each district. Held at grass roots level, the event is chaired by one of the Ministers/ Speakers /Deputy Speakers and attended by district level departmental heads to provide solutions for public grievances and educate people on various welfare schemes run by the government depart-



ments. Services are provided in Jan Manch itself and all the records are maintained in the software.

Budget Ashwasan

The Budget Assurances, which are part of the annual budget and assigned to various departments, are being monitored effectively using this module. The departmental heads report periodic progress of every assurance, which is verified by the Administrative Secretaries. The final disposal is decided by the nodal Planning Department, based on the documentary evidence uploaded by HoDs in the software.

Rojgar Srijan

This module provides mechanism to monitor departmental schemes in terms of creation of employment avenues for the citizens of the State. Both self-employment and wage employment are monitored against targets fixed by the departments.

Him Vikas Samiksha

The Him Vikas Samiksha module has been developed to monitor 26 departments based on the Key Performance Indicators (KPIs) assigned against each of them. Each of the 26 departments are given 4 common KPIs, namely Private Investment, Simplification of Acts/ Rules/ Procedures, Budget Assurance and Employment Generation, in addition to the department specific 205 KPIs. The solution provides a mechanism to hold review meeting using the software and also to record decisions as well as follow-up of decisions taken in the previous review meeting.

CM RefNIC

The software covers role-based functioning of the CM office and is web based with Unicode support. It is integrated with "Write to CM" and "Samgr eSamadhan" for effective processing and monitoring of CM references, which are sent to various departments for taking action and reporting compliance.

ICT Initiatives in the State

Manav Sampada

The Manav Sampada software at <https://ehrms.nic.in> is a standard solution that aims at an effective management and deployment of human resources in different government departments of the State. The software is under replication in about 18 states and covers service books, leaves, salary information, tours, annual confidential returns, property returns, transfers, joining, relieving etc. So far, 25 lakh employees have their eService books, and the software is supported by Manav Sampada Mobile App.

Mid Day Meals Automated Reporting and Management System (MDM-ARMS)

The MDM-ARMS software has been replicated in 17 states, covering over 3 lakh schools. About 6 lakh teachers report the daily meals data from their mobile phones, which gets reflected in the National MDM portal. The software is supported by a web interface for management and Mobile App for both monitoring and sending data. The software has a feature to capture daily attendance of teachers, students, reasons for not

serving meals, immunization programme information, availability of funds/ rations in schools etc.

Centre of Competence for Mobile App Development

NIC HP, Shimla is one of the 4 centres for Mobile App development and has developed 64 Apps on Android and 27 on iOS platform. Apps have been developed for Central Projects like Jan Manrega for



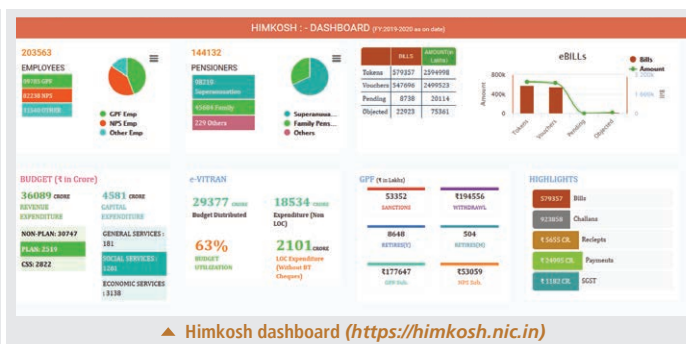
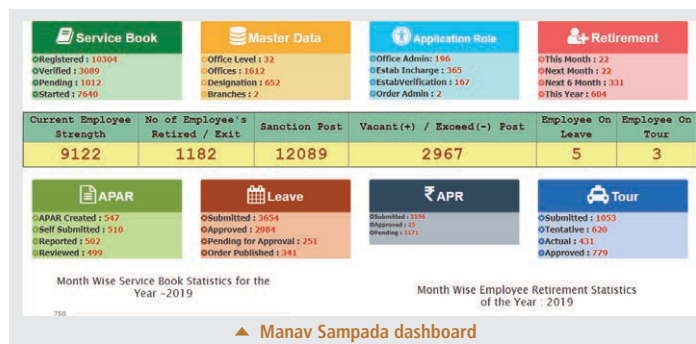
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NIC Himachal Pradesh is always at the forefront in taking new ICT activities in the State and takes lead in providing e-Governance solutions for different requirements of the State government. With a small team, NIC is doing excellent job at State and District levels. Their role in Land Records and Finance sector is commendable.

JAGDISH CHANDER, IAS

Principal Secretary
IT, PWD & Transport
Government of Himachal Pradesh

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MGNREGA, Safe City, Rajya Sabha Debates etc., and for other States like Chandigarh Gazette, eAwas, JK PSC, Xongtok Assam etc.

Web Development

About 50 websites of different departments have been developed by NIC HP, including the State Web Portal at <https://himachal.nic.in>. This portal is responsive, bilingual, security audited, compliant with the Guidelines for Indian Government Websites and the Web Content Accessibility Guidelines, supported by chatbot, and well supplemented with good graphics and audio-video content. It is a single point of contact for all information related to the State government. The portal has won many awards over the years.

eGazette

Himachal is the first State to switch to digital gazette, and now all the gazettes since the year 1954 are available in searchable format for both English and Hindi contents. The departments submit their notifications online for publication. The software has been replicated in Chandigarh and is supported by a Mobile App.

ioHRS

The Integrated Online Hotels Reservation System enables online booking of over 50 hotels of Himachal Pradesh Tourism Development Corporation (HPTDC), and the inventory is shared with major travel portals for improved bookings. It ensures that HPTDC hotels get presence at all portals as in the private sector. The software is supported by a Mobile App.

Cooperation MIS

A complete automation software has been developed for the Himachal Pradesh Cooperation Department for functions related to the online application of registration of cooperatives & NGOs and filing of returns, inspections, release of budget to societies, audits etc. A total of 47,120 societies under the HP Societies Registration Act 2006 have been registered, and 5,018 co-operative societies are registered under HP Co-operative Societies Act 1968. The total assets are 123917.32 crore and total liabilities are 129747.37 crore.

eKalyan

A complete solution has been developed for the management of quarterly disbursement of Social Security Pension Schemes being run by the Social Justice Empowerment Department, covering all State and National level Social Security Pensions. The solution has been implemented in all the districts, and presently, quarterly pensions of 5,34,578 individuals are being managed under various schemes.

Rohtang Permits MIS

The National Green Tribunal has restricted vehicular traffic to Rohtang Pass on daily basis. The District Administration, Kullu, with help of NIC HP, has developed and implemented a software, which is being used to issue online permits. The permits are issued based on predefined business rules without any manual intervention and a payment gateway has also been integrated. The software is supplemented with a Mobile App available on both Android and iOS platforms.

The solution has also won National e-Governance Award 2017.

Works Management Information System (WMIS)

Developed for the Department of Irrigation and Public Health, Government of Himachal Pradesh, Works MIS covers physical & financial aspects of government schemes executed by the department. The main modules include Online Administrative Approval and Expenditure Sanction of Schemes, Water Billing, Contractor Bills, Monthly Accounts Generation, and Electronic Measurement Book and Inventory. The application has been implemented in all the field offices and a mandatory monthly account to be submitted to Accountant General (AG) office is also generated online. The application is supplemented with Mobile Apps for e-Measurement Book and Assets Management.

Employment Exchanges Management Information System (EEMIS)

Developed for the Department of Labour and Employment, EEMIS has been implemented in all the 74 employment exchanges of the State for online registration, renewal and transfer of applicants within the exchanges throughout the State. Skill Development Allowance, Unemployment Allowance and Industrial Skill Development Allowance are also disbursed to the beneficiary's bank account directly through the application. A total of more than 8 lakh registered applicants, 4 lakh renewed online, 1.5 lakh skill allowance beneficiaries and 60 thousand unemployment allowance beneficiaries have been registered.



Shri Jai Ram Thakur, Hon'ble Chief Minister, Himachal Pradesh launching NGDRS; Also seen are Shri Ajay Sawhney, Secretary, MeitY and Dr. Neeta Verma, DG, NIC along with Shri D.C. Misra, DDG, NIC and Smt. Padmavathi Viswanathan, DDG, NIC participating through VC

Samgr eSamadhan

The Department of Redressal of Public Grievances, Himachal Pradesh has integrated all input channels for public grievance redressal at Samgr eSamadhan. Public has multiple options to submit grievances/ demands using the online interfaces of eSamadhan, write to CM, Jan Manch etc. The processing for speedy and effective resolution is achieved through a single channel available at Samgr eSamadhan. The present disposal rate is more than 92%.

Schemes Monitoring Management Information System (SMIS)

Implemented in all the 10 non-tribal districts in the State, SMIS software is used to monitor development works under different heads of accounts, which are sanctioned by the Deputy Commissioner offices at District level. The software is supported by a Mobile App. A total of 2,51,880 works have been sanctioned, and 1,66,975 works have been completed.

Integrated Financial Management System (IFMS)

IFMS comprises of the following modules:

eBudget: The complete process of annual budget preparation is automated. Once the budget is passed in the Vidhan Sabha, all the budget documents are published on the web in public domain. Budget publication is supplemented with mBudget Mobile App.

eVitran: The web-based interface is available to the heads of various departments for distribution of sanctioned budget to their respective Drawing and Disbursing Officers (DDO) in the field offices.

HPOLTIS: This is a role-based web application for conducting all the treasury operations. Operations related to preparation of bills, passing/ rejection and payment to beneficiaries are covered. Treasury operations such as stamps distribution, DDO management, and creating and rendering account to AG office are also covered to help the HoDs/ DDOs to utilize the allocated budget efficiently.

eSalary: The eSalary software is used to process monthly salaries of all the employees of the HP Government (1.96 lakhs) and disburse salaries directly through banks (ECS) into the accounts of individual employees. It has been integrated with AG office for Provident Fund and National Securities Depository Limited for New Pension Scheme employees. eSalary Mobile App is available on Android, iOS and Windows platforms.

ePension: The ePension software has been implemented in 12 district treasuries for calculation, modifications, processing and disbursement of pensions to (1.2 lakhs) pensioners in Himachal Pradesh on monthly basis. Pensioners can get their monthly pension breakup using the ePension Mobile App.

eChallan: The facility for online challan is available 24X7 and customers can make payment to the government treasury from anywhere through the internet. The application has also been integrated with all the major applications for collecting receipts like transport, excise etc. The eChallan Mobile App is available to check the validity of online receipts by officials.

eKosh (Online Financial Reporting): eKosh is an electronic dissemination interface on the web for various stakeholders like finance department, HoDs, DDOs, employees, AG, pensioners etc. All kinds of MIS reports are available on this interface in the public domain, and it is supplemented with a Mobile App.



Shri Jai Ram Thakur, Hon'ble Chief Minister, Himachal Pradesh launching Shor Nahin Mobile App



NIC HP Teams receiving Digital India Award, Gems of Digital India Awards and National e-Governance Award

Land Records: Himachal Pradesh is one of the leading States in Integrated Land Records System. The attribute data of Land Records is 100% computerized and is kept up to date using the web-based application i.e., eHimBhoomi. The digitization of existing manually prepared cadastral maps is also in advanced stage, with 100% completion of 5 out of 12 districts. The verified digitized village maps (settlement stage and updated till date) are uploaded on Bhu-Naksha application developed by NIC Headquarters. The attribute and spatial data are integrated, and a copy of the Record of Rights (RoR) is available in the public domain. The solution is two-way integrated with Registration of Deeds – HimRIS software. Citizens can get a signed copy of RoR from the nearest Common Service Centre known as Lok Mitra Kendras that are authorized by the Revenue Department to issue the copy.

In Himachal Pradesh, almost all the central projects developed by NIC are either implemented or under implementation. The prominent among these are DARPAN CM Dashboard, eOffice, eProcurement, Pradhan Mantri Kisan Samman Nidhi (PM Kisan), Arms Licensing Information System, SPARROW, Case Information System 2.0, Integrated Criminal Justice System, MGNREGA, Vahan, Sarathi, GST Prime etc.

Visit of VIPs/ Other Events

- Shri Ravi Shankar Prasad, Hon'ble Minister for Law & Justice and Electronics & Information Technology, during his visit to Shimla in July 2018, appreciated the work done by District Informatics Officers of NIC HP for making it the first State to complete S3WAAS migration of all District Administration websites.
- Dr. Ram Lal Markanda, Hon'ble Minister for Information Technology, Agriculture and Tribal Development, Himachal Pradesh visited NIC State Centre in June 2019 and discussed the ICT initiatives of NIC Himachal Pradesh. He desired to provide better citizen services with special reference to the implementation of the PM KISAN scheme in the State.
- NIC HP organized a residential training programme for five days in January 2019, in collaboration with Training Division, NIC Kerala and HP Institute of Public Administration on Mobile Application Development. 33 NIC officers from Northern States participated in the training.

Awards & Accolades

- Gems of Digital India Award 2019 for Mid Day Meal Automated Reporting & Management System
- Digital India Award Gold 2018 for State Web Presence (<https://himachal.nic.in>)
- National e-Governance Award Gold

2017 for Manav Sampada

- National e-Governance Award Gold 2017 for Online Rohtang Pass Permits MIS

Way Forward

NIC Himachal Pradesh is developing a generic product-based software for State Public Service Commissions, which will be implemented at HP PSC on pilot basis and later, offered to other States for replication. The work on adoption of elastic stack for faster search results in existing web applications is in advanced stage, with the secondary objective of incorporating data analytics in projects with data accumulated over the years, for better decision making. The National Generic Document Registration System and GST Prime software will be implemented throughout the State in the coming months and efforts are being made towards AI implementation in software applications being developed for various functional requirements to benefit the government and citizens at all levels. ■

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Webinar Series of NIC turns 2

DG, NIC felicitates top achievers as the platform successfully steps into the 3rd year



Dr. Neeta Verma, DG, NIC presenting the Certificate of Appreciation to Webinar Toppers

NIC is an organization with a vast repository of knowledge cultivated by individuals. Sharing of this knowledge is indispensable to growth, as it motivates them to improve performance and work with dedication. Providing a knowledge sharing platform to its officers and enabling healthy interactions on the Emerging Technolo-

gies and challenges faced, NIC launched Webinar Series on 3rd October 2017 wherein each session of half an hour duration i.e. from 1:30 pm to 2:00 pm has been conducted on every working day. The Webinar presenter from any NIC location in the country connects with other NIC officers and speaks on the chosen technical topic by sharing a power point presentation, which is

broadcasted through webcast.

Beginning with one session per day, it was escalated to two parallel technical sessions every day in November 2017. NIC officers from Senior Technical Director to Principal Systems Analyst took keen interest and delivered lectures on varied topics ranging from Database, Big Data, Cyber Security, Open Source Technologies, Programming Language, Software Quality, Documentation to Cutting-edge Technologies like Blockchain, Artificial Intelligence, Enterprise Architecture, Deep Learning, and many more. It is noteworthy that 600 plus sessions have been delivered so far in the last two years.

Dr. Neeta Verma, Director General, NIC addressed NICians on the occasion of the successful completion of two years of Webinar Series at NIC HQ, New Delhi on 3rd October 2019.

Shri Rajesh Bahadur, HoG, Training Division gave a detailed presentation on the achievements of Training Division in past two years. This was followed by a presentation on NIC Webinars by Smt. Sameena Mukhija, Senior Technical Director & HoD, Management Development Programme, Training Division and a presentation on GudApps and Vidyakosh by Shri Rajesh Pathak, Senior Technical Director & HoD, Technical Development Programme, Training Division.

In an encouraging speech, Dr. Neeta Verma acknowledged the performance of NICians who showed exemplary involvement by participation, delivering and attending Webinar sessions, and they were presented with certificates of appreciation. She stressed upon the need to make best use of this platform to share knowledge between peers, and thus to update technical knowledge. DG also advised to undertake plans for theme-based Webinars. ■



Smt. Sameena Mukhija, Sr. TD & HoD, MDP, Training Division giving a presentation on NIC Webinars

With inputs from
Sameena Mukhija, New Delhi

Ajmer District, Rajasthan

Ambitious and determined, set on a digital journey for better e-Governance

Edited by **SARBJEET SINGH**

Being the Division HQ of Rajasthan and located in the centre of the State, Ajmer District is home to many important offices such as Rajasthan Board of Secondary Education and Revenue Board Rajasthan. The District also has various pilot runs like the famous Rural Connectivity Project demonstrated to Mr. Barack Obama, President of the United States, National Optical Fibre Network etc.

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Located in the heart of Rajasthan, Ajmer District is nestled at a picturesque valley surrounded by hills of the Aravalli range. One of the most favorable destinations from spiritual perspective, Ajmer is extremely popular for places such as Dargah of “Khawaja Moinuddin Chishti” and “Teerthraj Pushkar”.

NIC Ajmer District Centre has been providing advanced ICT solutions, support and services to the District Administration and various departments of the State government and the Central government. LAN has been established at various offices. Network connectivity has been extended to post offices. Ajmer has two video conferencing (VC) studios and more than 300 VC sessions are conducted per year.

Pilot Projects

Rural Connectivity

Rural Connectivity Pilot has been implemented at 10 Gram Panchayats of Srinagar Block of Ajmer where citizen services were provided on fibre. Services like birth-death certificates, BPL lists, Mahatma Gandhi National Rural Employment Guarantee Act employment status, eGram, VC, internet protocol television, telemedicine, e-Learning etc., were provided from Gram Panchayats. Email accounts of portals of Gram Panchayats were developed. The project was appreciated internationally when Mr. Barack Obama, President of the United States interacted with the citizens of Kanpura Panchayats on his visit to India in Novem-

ber 2010. Delegations from the United States and different parts of the country also visited to know about the citizen services.

National Optical Fibre Network (NOFN)

NIC Ajmer was also a part of the NOFN National Pilot, which provided high-speed fibre at 30 Gram Panchayats of Arain Block. As part of the project, various services were provided to citizens. Telemedicine services were also provided from the primary health centres/ community health centres. Various institutions were also provided with wi-fi connectivity from the Gram Panchayat.

Direct Benefit Transfer (DBT)

Ajmer has been chosen as one of the pilot Districts for implementing DBT scheme. Various departments were facilitated under the scheme based on Unique Identification Number.

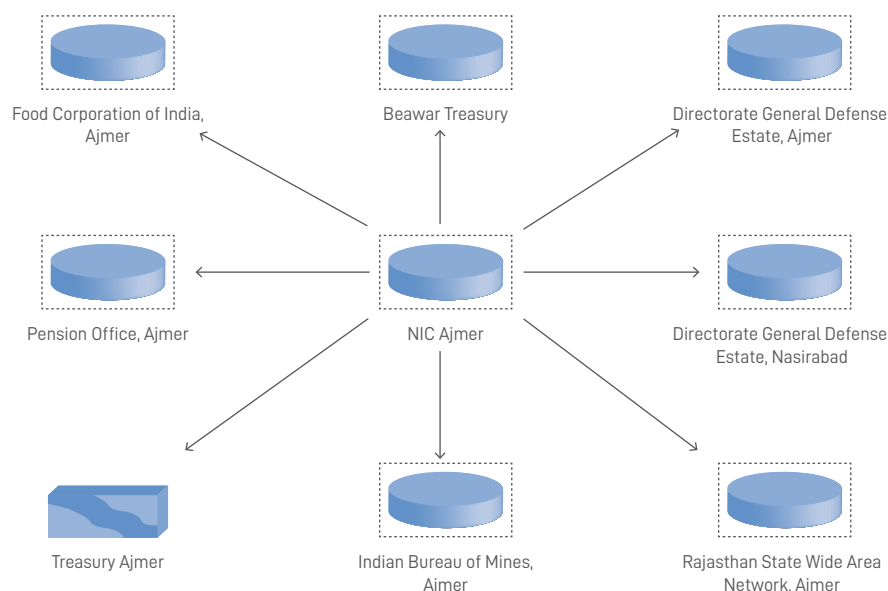


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NIC Ajmer District Centre is providing ICT support and services to various departments of the State government as well as to the Central government departments and the District Administration. This endeavor has made Ajmer one of the leading Districts in the State in terms of IT-enabled service delivery to its citizens. NIC Ajmer has developed and successfully implemented many ICT projects and initiatives for the benefit of citizens.

VISHWA MOHAN SHARMA, IAS
Collector & District Magistrate
Ajmer

”



Network connectivity from District Centres

Arrow Project

India Post has undertaken a quality improvement project called Project Arrow to transform India Post into a vibrant and responsive organization. The Hon'ble Minister of State, IT&C inaugurated post offices of Ajmer District using Desktop Video Conferencing services of NIC from Kutchery post office, Ajmer.

SMS-based Poll Monitoring System

An SMS-based monitoring system was developed by NIC Ajmer to monitor the safe movement of polling persons, along with information about the poll day

voting. An application was developed for making online payment at the time of departure and arrival of polling parties. A National level Award has been presented by Smt. Pratibha Devi Singh Patil, Honorable President of India to Shri Rajesh Yadav (IAS), District Collector, Ajmer in the year 2011 for use of ICT in Election Works as Best Practices.

ICT Initiatives

Elections Management System

An Elections Management System has been developed for Lok Sabha, Assembly and Panchayati Raj Elections. The software automates various stages of

elections like filing of nomination papers, personnel management, poll day management monitoring, counting of votes, results declaration, electronic voting machine tracking etc. The software maintains area magistrate, sector officers and zonal magistrates, along with polling officers attached with them. Micro observer, polling party and counting party are formed by generating random numbers.

Digital India Land Records Modernization Programme

Land Records data of all the 16 tehsils were made online. Leased line connectivity has been provided to each tehsil office. Digitally signed Record of Rights is being provided from tehsil centres/ common service centres/ e-mitra centres.

Computerized Lottery Software

The software has been implemented for the following departments:

- Ajmer Development Authority (ADA) for plot allotment
- Beawar and Pushkar Municipal for flat allotment
- Nagar Nigam Ajmer for "Safai Karamchari" appointments

Mobile Apps

Toy Bank and Blood Bank Mobile Apps have been developed to increase the Happiness Index of the society. Toy Bank App helps collect idle toys from the society and distribute to the economically



Mr. Barack Obama interacting with Kangpura Gram Panchayat



Inauguration of Toy Bank Mobile App by Smt. Vasundhara Raje Scindia, the then Chief Minister, Rajasthan through video conferencing



Inauguration of Blood Bank Mobile App by Smt. Vasundhara Raje Scindia

weaker society and Anganwadi. Blood Bank App is useful for patients, as it enables blood banks to send a request for the requirement of particular type of blood. The blood donor group receives this request and donates blood for patients, as and when required.

e-Courts

Under the District Court Computerization Project (e-Courts) in Ajmer, 30 courts are covered. Optical fibre based and copper based networking have been done for 100 nodes. Desktop VC training for court officials and staff members was also conducted by NIC Ajmer.

Other Projects

The following projects are also supported by NIC Ajmer:

- Integrated Financial Management System (IFMS) – PayManager, RajKosh, eGRAS, Budget, Social Security Pension
- Prison Management System along with Visitor Management System
- National Data of Arms Licenses
- eTransport - Vahan & Sarathi
- e-Procurement
- Civil Registration System, Pehchan
- ePanjiyan
- Pregnancy & Child Tracking System
- Shala Darpan
- eGram
- Social Security Pension
- Jeevan Pramaan

Awards & Accolades

- National level award by the President of India to District Collector Ajmer for use of

ICT in Election Works as Best Practices.

- SKOCH Award to Rural Connectivity Project
- Award to Shri Ankur Goyal, District Informatics Officer (DIO) and Shri Teja Singh Rawat, Additional District Informatics Officer (ADIO) by District Administration for ICT initiatives
- Award to Shri Ankur Goyal, DIO by the Election Commission of India for outstanding performance in Electoral Registration Officers Certification Programme

Way Forward

NIC District Centre, Ajmer has played a vital role in the Digital India Programme and is committed to transform District Administration into a paperless office. The Centre has also been a part of many pilot programmes that successfully transformed into the national projects. As a part of new initiatives, file tracking system and e-Office are being taken up for Nagar Nigam, Ajmer and Ajmer Development Authority respectively. ■



Shri Ankur Goyal, DIO, Ajmer being awarded by ECI for outstanding performance

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Patiala District, Punjab

At the forefront of spearheading ICT advancement while defying challenges

Edited by **SARBJEET SINGH**

Patiala District has a glorious history and is considered among popular tourist destinations of Punjab. The District has also witnessed great strides in the field of technology. Established at the District Administration in the year 1988, the NIC Patiala District Centre has been serving as a platform to promote ICT initiatives, thereby fostering the facilitation of technology-driven solutions to citizens.

Satyender Kumar

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Sanjeev Kumar Sharma

Scientist-D
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Patiala is relatively a young city, a few years more than two centuries old. It is called the mini capital of Punjab as various state headquarters are located here.

As an integral part of the digital journey towards the implementation of Digital District, the NIC Patiala District Centre is playing a vital role by providing technical support for various running/ new projects i.e., eOffice, Integrated Human Resource Management System (iHRMS), Online Consent Management System (OCMS), District Information System for Election (DISE), Smart Performance Appraisal Report Recording Online Window (SPARROW) (IAS/ IPS), Aadhar Enabled Biometric Attendance System (AEBAS), Jeevan Pramaan, National Database for Arms License-Arms License Issuance System (NDAL-ALIS), Computerization and Computer Networking of Consumer Forums in Country (CONFONET), Vahan, Sarathi, Vehicle Management System, Government Property Management System, Punjab-Public Grievances Portal (PB-PGRAMS), Micro Small Medium Enterprises (MSME), Hortnet, Economics and Statistical Organisation (ESO) Village Directory, Members of Parliament Local Area Development (MPLAD), National Buildings Organization (NBO), Immigration, Visa and Foreigner's Registration & Tracking (IVFRT), Business First Portal, Punjab Scholarship Portal, e-Prison etc., under the guidance of the State Informatics Officer, NIC Punjab. These initiatives have proved to be significant for the District Administration to successfully execute various e-Governance activities.

ICT Initiatives in the District

Patiala District Website

NIC Patiala undertakes regular maintenance and updation of District Administrations website (<https://patiala.nic.in>) as per the latest information received from the District Administration. The revamped website provides enhanced and user-friendly functionalities and interfaces, in compliance with the Guidelines for Indian Government Websites (GIGW) standard website norms and robust security standard on S3waas platform.

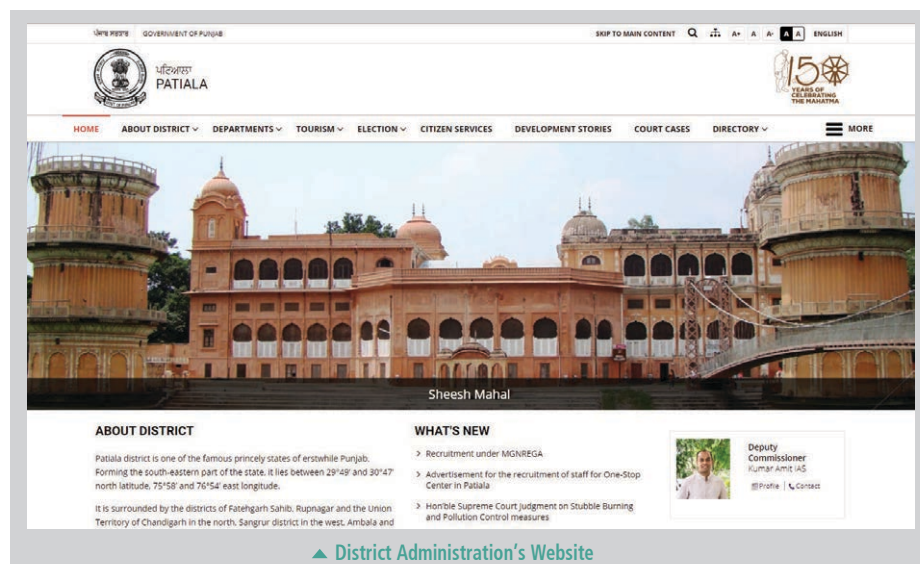


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It gives me immense pleasure that Patiala District has been chosen for District Informatics category in the Informatics Publication. The state-of-the-art technology and latest ICT infrastructure of NIC Patiala District Centre, along with its sincere, hardworking and skilled officers are key assets of the District Administration. The information, data and technical expertise with innovative ideas have always played a key role in better planning and decision-making in order to deliver public services seamlessly. The keenness and proactive support from NIC officials to roll out various e-Governance projects, sharing of Government information through the district website and active support during general elections have been quite commendable.

KUMAR AMIT, IAS
Deputy Commissioner
Patiala

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General Elections

NIC Patiala has always played an important role during the Assembly, Lok Sabha, Local Body and PRI elections. DISE software was implemented for the randomization of polling personnel and collection of all the employee data through DISE-Capsule. During elections, NIC Patiala provided complete support for computerization, Suvidha, Sugam, cVIGIL Mobile Apps, webcasting and online transmission of various reports/ counting results to the Election Commission of India (ECI).

NGDRS

The State Revenue Department of Punjab has marked their presence under Digital India Programme by launching the National Generic Document Registration System (NGDRS), which is a national

initiative by NIC. The project was inaugurated by Captain Amrinder Singh, Hon'ble Chief Minister of Punjab. All the eight Sub Registrar Offices (SRO)/ Junior Sub Registrar Offices (JSRO) in the District have completely switched over to NGDRS.

Digital India Activities

NIC Patiala has been taking steps to increase computer awareness among government staff and provide them with training for an effective utilization of government facilities. Workshops, training programmes and multimedia presentations are conducted on a regular basis. Shri Sanjeev Kumar Sharma, DIO, Patiala was invited for an informative talk show under Digital India Programme by All India Radio, Patiala and Doordarshan, Jalandhar.

i-HRMS

i-HRMS has been successfully implemented in all the State Government departments/ offices of Patiala District. Nodal Officer and Master Trainers (900) of these offices were provided with training. Service book, Paybill, Annual Increment, GPF and external manpower modules have also been implemented.

Punjab Public Service Commission - The Integrated Online Service Recruitment System

The Integrated Online Service Recruitment System, developed by NIC Punjab, has been successfully implemented in the Punjab Public Service Commission, Patiala.

Online Consent Management System

The Online Consent Management System, developed by NIC HQ for authorization/ consent management, has been implemented in the Punjab Pollution Control Board, Head Office Patiala for all types of industrial units.

eOffice

eOffice has been successfully implemented and is running in the complete Deputy Commissioner (DC) office, Patiala. Structured LAN and a training has been provided to all the 150 officials of DC office.

Online National Permit

This was the pilot project of the Ministry of Road Transport and Highways Division





Shri Sanjeev Kumar Sharma, DIO, NIC Patiala receiving award from Captain Amarinder Singh, Hon'ble Chief Minister, Punjab for outstanding services in the IT sector



Award being received for Best Performing District from Shri Ravi Shankar Prasad, Hon'ble Union Minister

of NIC HQ and has been successfully implemented in the Regional Transport Office, Patiala.

NKN/ NICNET

NICNET connectivity has been established at different offices i.e., Food Corporation of India (FCI), Indo-Tibetan Border Police (ITBP), Director General of Civil Aviation (DGCA), District Court, and under NKN/ NMIECT, high-speed links (100Mbps/1Gbps) have been provided to the Government Medical College, Thapar University, Punjabi University and Rajiv Gandhi National University of Law, Patiala.

Other Key Initiatives in the District

DM-Dashboard/ DARPAN

A dashboard (<https://pb.dmdashboard.nic.in>), showing an analytical view of projects, is meant to provide the District Administration the status of different departmental activities with an

architecture for presenting dashboard in respect to the monitoring of schemes at District level. It is noteworthy that Patiala is the first District in the State where DM dashboard has been launched.

Technical Support during VIP Visits

As an IT Nodal Officer, Shri Sanjeev Kumar Sharma, District Informatics Officer (DIO), Patiala has been providing technical support for various State level functions held in Patiala as well as during visits of Captain Amarinder Singh, Hon'ble Chief Minister of Punjab for setting up of IT/ Media control room. Various events such as Polo Cup, State-level Debt Waiver Function, State-level Rozgar Mela and Oath Taking Ceremony of Sarpanches have been organized.

Awards & Accolades

- Shri Sanjeev Kumar Sharma, DIO, NIC Patiala was awarded by Captain

Amarinder Singh, Hon'ble Chief Minister, Punjab on 70th Republic Day i.e., 26th January 2019, for his outstanding services in the IT sector.

- District Patiala bagged the Award at national level for being one of the best performing Districts under Digital India Campaign. The Award was presented by Shri Ravi Shankar Prasad, Hon'ble Minister, Law & Justice and Electronics & Information Technology on Good Governance Day in 2015.
- NIC Patiala was awarded by the Deputy Commissioner of Patiala for technical support in successful conduct of Assembly, Lok Sabha, Local Body and Panchayati Raj Institute PRI Elections.

Way Forward

NIC Patiala is committed to provide efficient and total ICT support to the District Administration and field level offices of the State and Central governments in the District.

- eOffice is being extended to all the field offices of State government departments.
- iHRMS implementation is under progress at Punjabi University, Patiala, which will become the first university in the state to have it. ■

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NGT Online Portal

An electronic smart court to address environmental protection issues

Edited by **MOHAN DAS VISWAM**

Facilitating an effective, IT based and less-paper Grievance Redressal System to handle environmental disputes involving multi-disciplinary issues, the NGT online solution has enabled digitization of all the court documents that get stored in the repository (Document Management System), thereby maintaining confidentiality of information. 24x7 e-filing facility for litigants has led to a decrease in queues at registry counters. Enhanced and efficient case management has resulted in faster dealing of pleas and pendency reduction.

The National Green Tribunal (NGT) was established in 2010 to develop national laws on environment and implement expeditious remedies in cases related to environmental protection, conservation of forests and other natural resources, and enforcement of any legal rights related to environment effectively. NGT is a specialized judicial body equipped with expertise solely for adjudicating environmental cases in the country. The Tribunal's orders are binding, and it has the power to grant relief in the form of compensation and damages to affected persons.

In this direction, NGT, with the help of the National Informatics Centre (NIC), has initiated NGT online portal to enrich public awareness on the clean and green environment by publishing various government initiatives/ acts/ notifications. The portal also aims to facilitate an effective, IT based and less-paper Grievance Redressal System through digitization of various processes.

Initially, the NGT online portal was designed and implemented for the Principal Bench of NGT, New Delhi. Later, seeing its importance and utility, the services with additional features were extended to all India basis to its constituent benches, viz. Eastern Zone (Kolkata), Western Zone (Pune), Southern Zone (Chennai) and Central Zone (Bhopal) Benches w.e.f. September 2019.

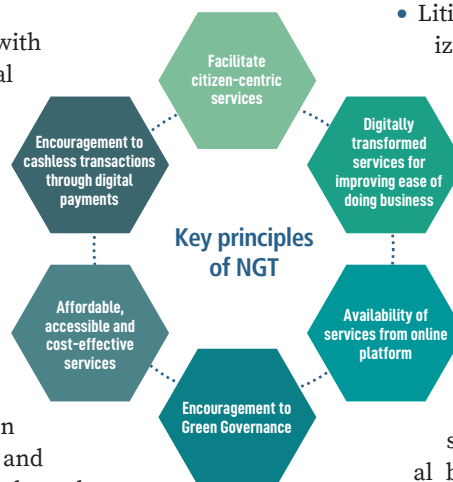
Objectives

The portal (<https://ngtonline.nic.in/efiling>) has been initiated to accomplish the following goals:

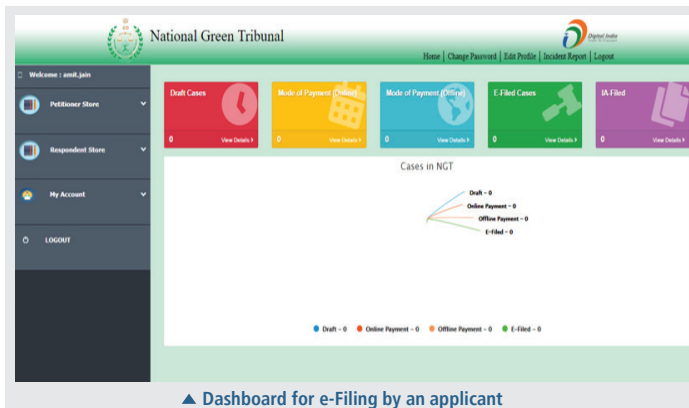
- To ensure the activities of NGT align with the philosophy of Digital India.
- To facilitate effective and time-bound citizen-centric service delivery
- To provide accessibility of information to all the stakeholders with transparency
- To provide affordable, accessible, cost-effective and transparent justice delivery system
- To enable digitization and transformation of NGT
- To encourage green governance-through Paperless Courts at NGT
- To increase productivity with efficiency through automation of front-end/back-end processes
- To ensure effective and efficient delivery of G2C and G2G services

Features

- Litigant's personalized dashboard to track the progress of a petition
- Capturing of geo coordinates of uploaded videos / images, geo-location shown at the time of viewing supporting material by pinning location on Bharat Maps
- Online accessibility of documents to parties of both the sides
- Digital payments and online fee receipt generation
- SMS/ Email alerts on case proceedings to litigants
- Personalized notes/ observations on smart screens for judges
- Automated MIS reports
- e-Hearing of petitions from zonal benches through video conferencing (VC)



Manoj Tuli
Sr. Technical Director
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Technologies Used

Module	Technology
e-Filing, CIS and DMS	JAVA (JDK), JS, Spring-Hibernate, Tomcat, Apache, PHP
Database	PostgreSQL
Operating System	RHEL
Client end	PDF Reader/Writer (Adobe Pro), One Note (MS)

Modules

The online digital solution at NGT is an integrated product of three following modules:

e-Filing

It enables litigants/ parties to file petitions 24x7 from anywhere, avail the online court fee payment facility and track the latest status of their petitions on personalized dashboards with secured online documents delivery/ access.

Case Information System (CIS)

The petition life cycle in the registry is maintained in CIS by processing it through the defined workflow followed in NGT like general scrutiny, case registration, allocation to specialized group for detailed observations on petitions, listing, order/ judgments generation etc.

Document Management System (DMS)

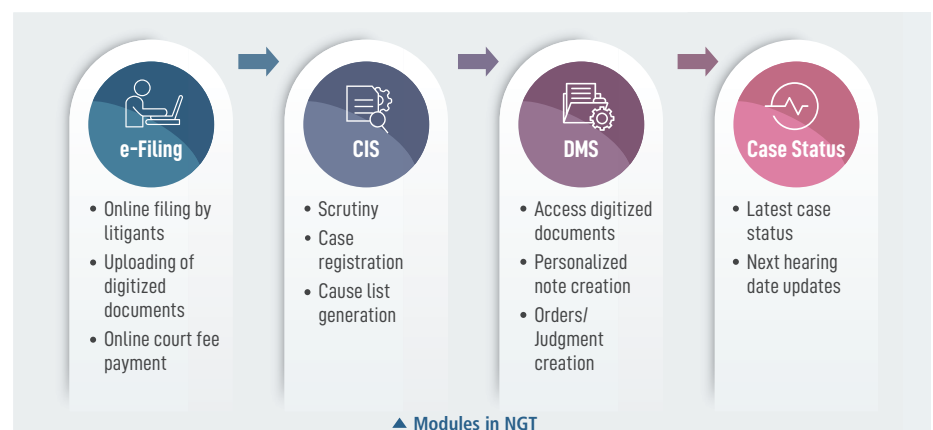
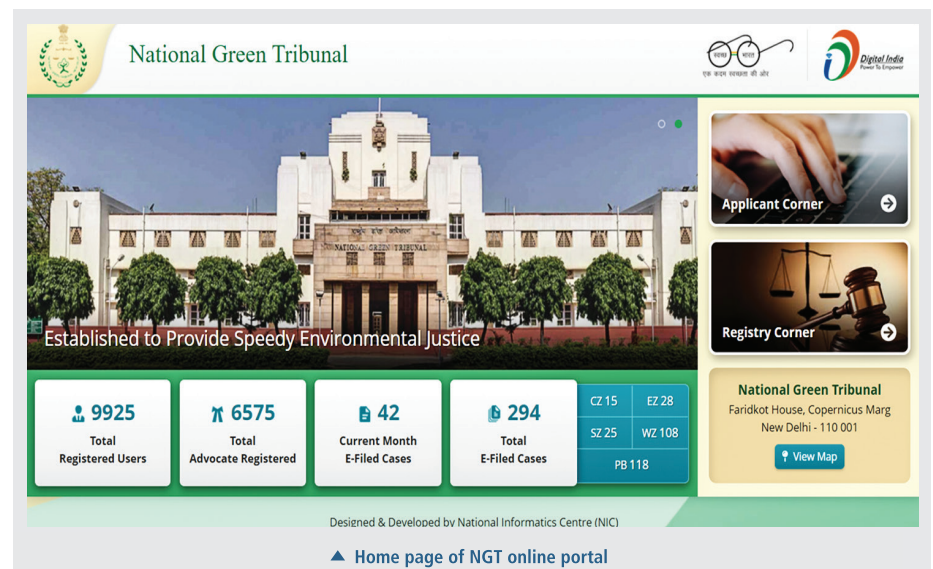
Each new e-filed petition/ pending

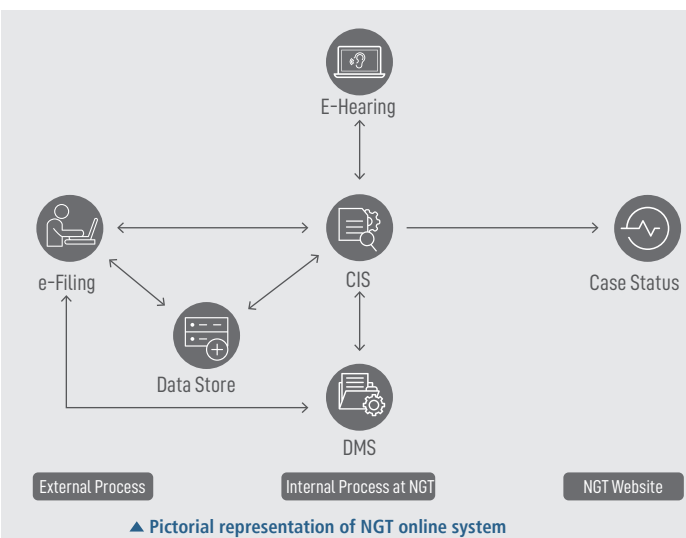
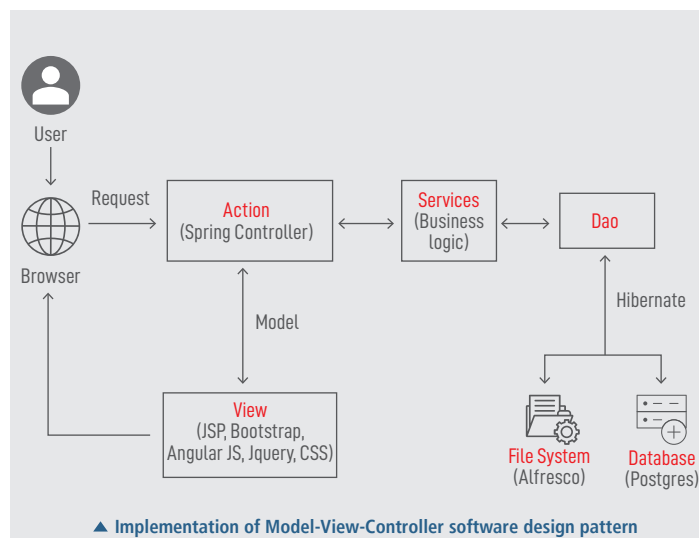
digitized petition is maintained in six digital folders. Documents in each folder are bookmarked and arranged in a specific order for making them easily accessible during hearing in the court room.

An effective provision of hearing through VC in the court has also been established.

Key Stakeholders

- NGT
- Applicants/ Parties
- Representatives (Advocates)
- Central and state pollution boards
- Concerned ministries and departments





Deployment Architecture

The deployment architecture for NGT is based on Centralized and Networked Data Processing principles. The data processing is carried out at a single location with a set of servers to support

the processing needs of NGT. The architecture was designed so as to avoid single point failure to the maximum possible extent.

Benefits of Project Implementation

- Digital India's key guidelines implementation for effective and efficient G2C and G2G services
- Real-time tracking of cases by parties
- Electronic monitoring of pendency in NGT courts
- Better case management resulting into faster disposal and pendency reduction
- Reduction in time and efforts dedicated by registry officials
- Easy and credible online services to citizens

Social and Economic Impact

- NGT online solution has brought about transparency by automating all the front-end and back-end judicial functions.
- Unique user accounts have introduced more accountability and helped track registry activities.
- All court documents are digitized and stored in the repository (DMS), enabling confidentiality and zero tampering.
- Integration of digital payments in NGT online solution has led to instant processing of filed cases.
- 24x7 e-filing of cases by litigants is

hassle-free, and users can access the application from anywhere, anytime.

- Queues of litigants at registry counters have reduced, and functioning of registry & day-to-day dealing of litigants have become easier.
- Automatic registration of cases will eliminate any biases in listing of cases for hearing.
- Digitization of different documents (petitions, orders, notices etc.) has significantly reduced the use of paper.

Way Forward

- Make NGT courts people less: appearance of litigants only in case of Court Summons and Notices
- Introduce artificial intelligence in registry activities for adjudication pattern analysis and impact analysis of any variation in governing factors relating to law, amendments and jurisdiction
- Access of digitized original record of petitions of NGT to Appellate Court for faster processing and elimination of duplication of work ■

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In line with the Digital India Programme of the Government of India, the NGT Online Portal, a joint initiative of NGT and NIC, enriches public awareness on the clean and green environment by publishing various Government Initiatives, Acts and Notifications on the portal and also facilitates IT based simple, accountable, cost-effective, time-bound and transparent citizen-centric system of justice delivery through paperless electronic court of NGT.

S.B. SINGH
Deputy Director General
National Informatics Centre

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Bharat Maps

A Multi-layer
GIS Platform

Bharat Maps

Salient features

01

A robust and scalable framework based on Service Oriented Architecture (SOA)

02

Incorporated OGC Standards based spatial data repository

03

Tile based maps at 14 different scales up to 1:4K

04

Seamless mosaics of IRS images of various resolutions like LISS-IV, cartosat-1 (2.5m)

05

Terrain base map service featuring shaded relief imagery

06

Leveraging additional content with external global services using mashups

07

Rich Internet Application (RIA) with cross platform support based Javascript API

08

Linkage to attribute data like census etc.

Information Technology, as a cross-cutting frontier of knowledge, has opened several new vistas of applications for daily needs of the civil society. One of them is Geographical Information System (GIS) technology, which is rapidly becoming a catalyst for several transformational changes in the world; mainly in natural resource management, planning, decision-making, governance and citizen engagement services. While e-Gov is the current paradigm, the future lies in embedding GIS in governance and service delivery and in establishing g-Gov (Geospatial Technology) as the next frontier.

GIS has been in use in India for more than two decades and forms the core of several mission critical projects in the Government and private sector. However, the deployment has been at departmental level with minimal integration, resulting in creation of silos and restricting the benefits. There is a need to consolidate the work already done and build a unified portal to enable g-Gov and bring wide-ranging benefits.

National GIS Platform using Bharat Maps

The mandate of Digital India initiative of the Government of India is to digitally empower the society. It envisages the facilitation of location based/ GIS based decision-making for planning, e-Governance and better utilization of resources available, an important component of the initiative.

In order to fulfil the objectives of Digital India and to establish end-to-end geo-spatial electronics delivery systems as a part of the National GIS Mission Mode Project, the National Informatics Centre (NIC) established the core foundation of National GIS with the support of Planning Commission from 2004-09. This was executed in collaboration and cooperation with the Survey of India (SOI), Department of Space (DOS), Registrar General of India (RGI) and other organizations. NIC has developed an integrated base map as a web-based NICMAPS

service, harmonizing around 5000 topographic maps sheets from SOI, Satellite data from the Indian Space Research Organization (ISRO) in various resolutions, RGI data for 6,40,000 villages and other datasets from various other organizations. Ultimately, this has been developed into a platform with 23 categories of layers and services that are being continuously updated and deployed for e-Governance applications.

As a part of upscaling of multi-layer GIS project supported by the Ministry of Electronics & Information Technology (MeitY), NIC has created 6 layers, viz. road, rail, river, canal, water bodies and settlements at 1:10000 scale. These were captured using 2.5m satellite imagery from ISRO.

GIS platform, established by NIC, MeitY, using NICMAPS services, has been revamped as "BHARAT MAPS". It depicts the core foundation data as BHARAT MAPS, an integrated multi-scale, multi-resolution base map service using reference data from various agencies.

It may be seen that this data warehouse is the largest single spatial data repository in WGS84 datum with compliance to the National Map Policy as well as global standards.

Key Features of Bharat Maps

- A robust and scalable framework based on service oriented architecture
- NIC common spatial data repository as per the Open Geospatial Consortium (OGC) standards with many vector layers comprising of administrative boundaries, transportation network, natural resources etc.
- NIC base map service consisting of pre-composed maps with scales ranging from 1:40 million to 1:20000
- Administrative boundaries and locations up to village level covering 725+ districts, 6000+ blocks/ sub-districts, 6,40,000 villages and corresponding Gram Panchayats (GPs), linked with Census/ Local Government Directory (LGD) Code



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Jan Dhan Darshak, a Mobile Application based on NIC's Bharat Maps, was launched to provide a citizen-centric platform for people to locate banking touchpoints (branch/banking correspondents/ ATMs) in the country. The facilities under Jan Dhan Darshak App could be availed as per the need and convenience of common people. The web version of this application could be accessed at <http://findmybank.gov.in>. This App is also being used for identification of unbanked inhabited villages. This Application is helping the Government in deepening financial inclusion and strengthening banking infrastructure in the country.

BHUSHAN KUMAR SINHA
Joint Secretary
Department of Financial Services

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- NIC base map service with all topographical features at 1:50k
- NIC street map service with road network of 1:50k/ 1:10k
- NIC satellite imagery service is a dynamic service using Indian Remote Sensing (IRS) satellite images of resolution 2.5 m.
- NIC terrain base map service features shaded relief imagery to provide a neutral background for other data layers.
- Mash-ups with global web services
- Geo-coder which enables single line search for around 13 lakh locations
- Pin code locator covering rural post offices
- Area of Interest (AOI) which enables

user to view/ analyze specific area with masking

- Basic GIS tools for navigation, query, buffer, print and distance measurement
- Advanced geo-processing models for elevation profile, swipe and spotlight
- Linkage to attribute data like census etc
- Full compliance with National Map Policy 2015 of the Ministry of Defence, Remote Sensing Data Policy 2011 from ISRO and National Data Sharing and Access Policy 2012 of Department of Science and Technology (DST)

Platforms for GIS Service Delivery of NIC

a) Visualization services

These services are open to Government as well as citizens (<http://bharatmaps.gov.in/>).

Functionalities of Bharat Maps

Table of Contents

Table of Contents widget displays the list of available dataset layers such as Administrative Layer, India Assets and Parliamentary/ Assembly Constituency Boundaries.

Area of Interest Widget

Data Extract widget enables end users to select a subset of data from the application's map display. End users

define the data subset by specifying an area of interest.

CSV/ Thematic Viewer

CSV/ Thematic viewer enables users to make their own thematic maps by joining their data with Bharat Maps datasets for polygons (State and District) and points. In order to join the two, it is to be ensured that both data and Bharat Maps datasets share a field or column with common values, called a key. For creating the theme, users can download sample CSV file and provide their data, which can be uploaded. It also enables uploading user's own latitude/ longitude data as CSV and viewing the same on Bharat Maps platform.

Swipe Spotlight Widget

Swipe tool allows to compare two layers side-by-side, by selectively masking the topmost of the two layers. Spotlight tool allows to see through a circular “cut out” of one map layer onto any layers below. To use the Swipe Spotlight Tool, the user must select a layer to be “active” over your base map layer.

Elevation Profile Widget

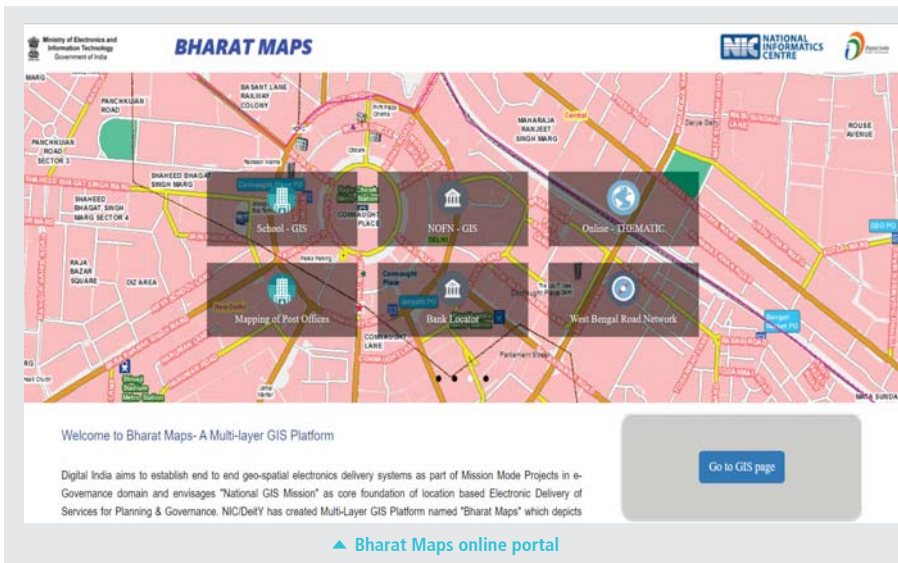
This widget allows to create a profile of the elevation height, along with a route between two or more points.

Night Light Data

Night Light Data displays satellite imagery of India captured at night,

Base map service

S. No.	Service Name	Scale & Resolution	Content & Source
1.	NIC Base	1:36m to 1:18k	Administrative boundaries, locations, topographic layers, forest etc., from Survey of India (1:50,000 scale data)
2.	NIC Satellite	2.5m	Imageries from National Remote Sensing Centre (NRSC)
3.	NIC Street	1:36m to 1:4k	Road rail network 1:10k and water bodies, settlement etc.
4.	NIC Terrain	20m	Relief map from Digital Elevation Model (DEM) based on SOI contours (20m contour interval)
5.	ESRI Aerial	Up to 1m	Satellite imagery service from ESRI
6.	ESRI Street Maps		Street Map service from ESRI
7.	ESRI Topomaps		Topographical map service from ESRI



providing a composite view of the patterns of human settlement and economic activity across the country for the year 2012 and 2016. It is sourced from NASA Earth Observatory images using Suomi NPP VIIRS data.

Legend

It conveys the meaning of symbols used to represent features on the map to users. Legends consist of indicative map symbols with labels containing explanatory text.

Identify Widget

Identify widget tool interacts with the map to display information about the

feature that was clicked on in the map.

Locator Widget

This widget enables end users to search a location on the displayed map content in the viewer. The widget provides two ways to find a location i.e., entering an address or longitude/ latitude coordinate values.

Print

Print widget enables viewer application end users to print what you see is what you get (WYSIWYG) output. All map display content that is currently visible will be printed. This includes the navigation widget, the scale bar. The output gets generated on clicking the

“Print Preview” button, which can be saved in a PDF file or can be printed.

Map Switcher

Switch between different map services. Open the Map Switcher extension popup to show the available selection of maps. Click any of the links to open the base map in the viewer NIC-Base Maps, NIC-Satellite Imagery, NIC-Street, NIC-Terrain, and ESRI-Street, ESRI-Topo, ESRI-Aerial. Only one base map is visible at a time.

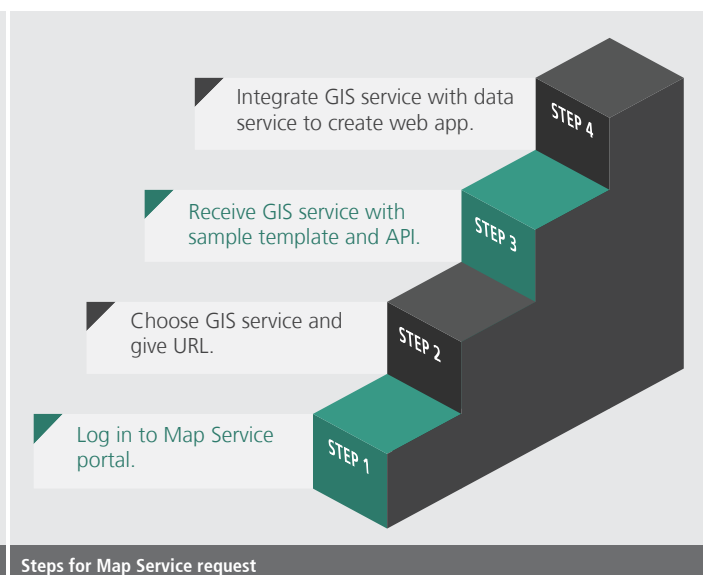
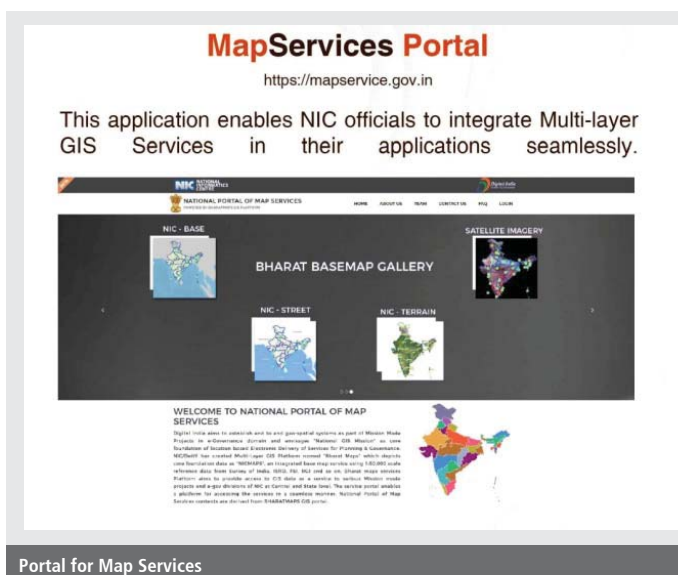
This widget also has an option to provide users the ability to turn on/ off operational layers on the map display.

(b) Map services

(<https://mapservice.gov.in/>)

GIS services from NIC are based on Service Oriented Framework leveraging multi-layer, multi-scale & multi-resolution GIS data. Dissemination/ utilization of these datasets was a real challenge. Bharat Maps framework is a unique and robust infrastructure leveraging seamless countrywide base maps, satellite images and terrain maps, similar to the services rendered by global GIS communities.

NIC has developed an automated map service dissemination application consisting of about 32 layers. This platform enables all the NIC officers to



access and integrate map services in their e-Gov application. The Remote Sensing & GIS division has also developed tools and templates, which are being made available through the resource section in the application.

Map services are being provided to various Ministries and Departments like the Ministry of Sanitation and Drinking Water for SBM (Gramin), Drinking Water Portal etc. Similar services are being provided to the Ministry of Rural Development, Ministry of Urban Development, Department of Land Resources, Department of Labour, Vahan & Sarathi projects, Central Government Health Scheme (CGHS), Health Management Information System (HMIS) etc.

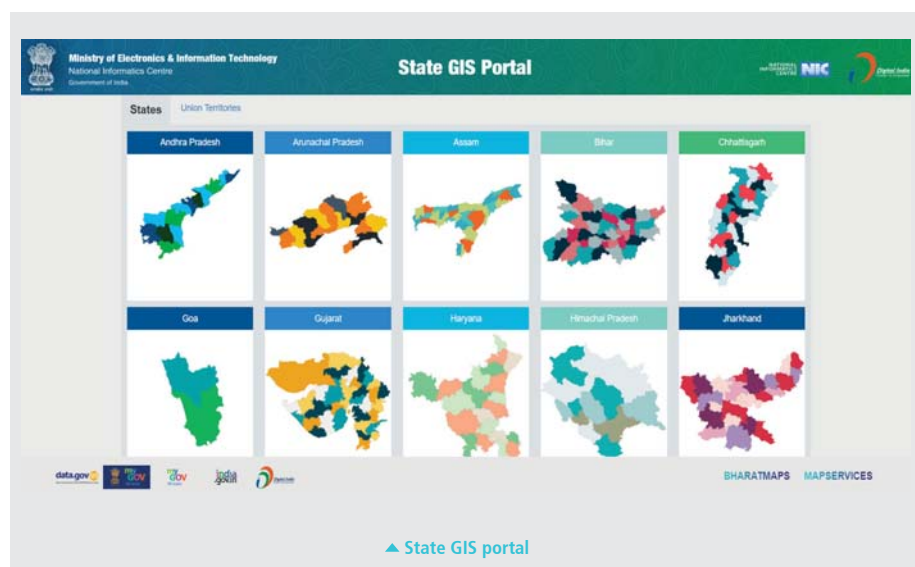
(c) Geocoding and Reverse geocoding services

Geocoding is the process of transforming a description of a location such as a pair of coordinates, an address and name of a place to a location on the earth's surface. User can geocode by entering one location description at a time or by providing many of them at once in a table. Finding places on a map is an integral part of a GIS, and geocoding enables the same. NIC has incorporated three geocoding options on Bharat Maps - NIC Place Locator, Pincode Locator and ESRI World Geocoder.

Reverse geocoding is the process of back (reverse) coding of a point location (latitude, longitude) to a readable address or place name. This permits the identification of nearby street addresses, places, and/or areal subdivisions such as neighborhoods, county, state and country. This service can be availed through NIC's Map Service portal. NIC has created a reverse geocoding API, which gives details of a place name, its district and state, if the latitude and longitude are provided.

(d) NIC Satellite Imagery

Satellite imagery is one valid source of latest location information, and therefore, having its base map service is of added advantage for visualization and



verifying data. As a part of the “Upscaling of Multi-layer GIS Framework” project, it was required to create in-house and high resolution national image services for upgrading the existing selected GIS layers to 1:10,000 scale and encourage its use in various e-Gov applications instead of the external services like Google, Bing etc.

In view of this, country-wide high resolution panchromatic and multi-spectral standard satellite imageries of IRS (2.5m Cartosat-1 and 5m Resourcesat-2, respectively) have been procured from the National Remote Sensing Centre, Hyderabad. These datasets have been processed to develop a seamless Natural Color Composite (NCC) data of 2.5m resolution. The size of the output NCC datasets is of the tune of 5 terabytes. This improved dataset has been aligned as an image service on Bharat Maps portal to enable its consumption in various e-Governance projects.

State GIS portal

The State GIS portal (<https://stategisportal.nic.in/>) empowered by Bharat Maps is a simplified user interface for all the states and union territories of India. Six Centres of Excellence in GIS have been established in Madhya Pradesh, Tamil Nadu, Odisha, Bihar, Andhra Pradesh and Assam. They also offer GIS services to various departments.

GIS Applications using Bharat Maps

NIC is providing Multi-Layer GIS Framework as a platform to address multi-disciplinary and multi-institutional requirements for sustainable economic development, and these services are being deployed in various initiatives taken up by the Government. Brief descriptions of such NIC initiatives follow as under:

- GIS for Financial Inclusion (DBT-GIS) for mapping all banking and postal assets has been developed and released under G2G domain. This is a work-flow based application (<http://dbtgis.nic.in/bankgis>) of mapping of financial infrastructure across the country to facilitate the financial inclusion of rural masses so that the Direct Benefit Transfer (DBT) can reach the unreached. This is being developed into an integrated platform consisting of a set of applications and mobile based tools for continuous data capture and update of Financial Inclusion (FI) infrastructure, which include bank branches, ATMs, banking correspondents (operating micro-ATMs in villages) and post offices.
- Jan Dhan Darshak Mobile App for Financial Inclusion Service using Bharat Maps was launched by Late Shri Arun Jaitley, the former Hon'ble Finance Minister on 25th September 2018.
- GIS for Panchayati Raj: GIS division is extending support to Panchayat



BBNL, a special purpose vehicle established for connecting all Gram Panchayats (GPs) for providing high bandwidth through OFC network, has adopted state-of-the-art technology for management of their project. GIS is one of the technologies, which has been leveraged to develop a digital database of telecom assets for efficient monitoring. The services of NIC & its Bharat Maps platform has been intensively utilized at various stages of the project. We acknowledge the services of NIC in establishing the GIS infrastructure at BBNL Data Centres in Delhi & Bengaluru.

SARVESH SINGH

Chairman and Managing Director
Bharat Broadband Network Limited

Informatics Division in their e-Panchayat suite of applications to embed GIS services in the workflow of application. A Panchayat Atlas application (Gram Manchitra) has been developed for integration into plan plus software for visualizing various assets and enabling the Gram Panchayat Development Plan (GPDP) process.

• **Gram Manchitra**, an application (<https://grammanchitra.gov.in/>) for the preparation of GPDP was launched and dedicated to the nation by Shri Narendra Singh Tomar, the Hon'ble Minister for Rural Development, Agriculture & Farmers Welfare and Panchayati Raj, Government of India during the National Panchayat Award Ceremony on 23rd October 2019.

• **BBNL GIS**: NIC is providing end-to-end support (<http://gisapp.bbnlindia.net.in/bbnlportal/>) to Bharat Broadband

Network Limited (BBNL) for managing their enterprise GIS system (OFC network mapping). The support encompasses all three phases of data capture - planning, execution and operations. NIC has also helped BBNL in establishing the GIS infrastructure in their data centres in Delhi and Bengaluru (disaster recovery).

• **Ministry of Human Resource Development (MHRD)**: NIC is supporting MHRD in mapping school location data, and a website (<http://schoolgis.nic.in/>) was launched in 2015. The application has been revamped and relaunched with mobile-friendly features by Shri Ramesh Pokhriyal 'Nishank', Hon'ble Minister of MHRD.

• **Ms. Rina Ray**, Secretary (School Education and Literacy), MHRD launched GIS for Kendriya Vidyalaya Sangathan (KVS) Project Monitoring (<https://kvsgis.nic.in/gis/>) at KVS-NVS National Principals' Conference held from 6th to 7th February 2019.

• **Department of Post**: A GIS application (<http://postalgis.nic.in/>) has been developed for postal department. The Postal Zone Mapping of 7 Mega Cities has also been done.

• **Ministry of Health and Family Welfare**: GIS Maps Service of

Administrative Boundary extended to HMIS application of the Ministry is being provided.

• **Agriculture**: GIS for Soil Health Card based on soil health card database has been developed and launched (<https://soilhealth7.gov.in/>). GIS based support has been provided to the Ministry of Agriculture for sending target specific weather forecasting SMS by identifying doppler radar coverage. Support has also been provided to the Soil and Land Use Survey of India (SLUSI) in developing various applications, which include publishing of Micro-watershed Atlas.

• **Left Wing Extremism (LWE) Division of Ministry of Home Affairs (MHA)**: Mapping of key infrastructure layers and identification of gap areas in LWE districts as a project has been approved by MHA. The application (<http://lwegis.nic.in/>) has been developed and launched and is being used by LWE division.

• **Ministry of Rural Development**: GIS dashboard applications have been developed for Gram Swaraj Abhiyan (GSA), Extended GSA schemes and DISHA project. A dashboard application for Prime Minister's Awas Yojana (PMAY) scheme has been developed.

• **Ministry of Urban Development**: A GIS based dashboard application

BBNL-GIS

BBNL has been established a) To carry on the business of establishment, management and operation of National Optical Fibre Network (NOFN), which has been envisaged by the Government of India to provide high-speed broadband connectivity to all GPs (around 2.5 lakhs) across India. b) To provide access to bandwidth in a non-discriminatory manner to all eligible service providers to enable them to provide services in rural areas.

Layers Integrated

- **BBNL network**
 - Planned: GP locations, Optical Line Terminal (OLT), Optical Node Terminal (ONT), Fibre Point of Interconnect (FPOI)
 - During execution: OLT, ONT, Optical Fibre Cable (OFC)
 - Operational: OLT, ONT, FPOI, Joint, Splitter, OFC, Route Indicator, Landmark
- Administrative boundaries - State/ District/ Block
- Existing OFC network of BSNL, RAILTEL and PGCIL and other assets like BSNL exchanges, Railway LC gates, PGCIL joint box etc.
- Road/ rail network
- Map services from Bharat Maps and ESRI

URL: <http://gisapp.bbnlindia.net.in/>

Key Features

- GIS based support for survey and planning of OFC route from Block HQ (OLT) to GP HQ (ONT), based on the available existing OFC network of BSNL, RAILTEL and PGCIL
- Sizing, procurement and installation of GIS infrastructure, both hardware and software, at BBNL data centres - Delhi and Bengaluru
- Establishment of team for data management, software development and data centre management
- Development of applications for Bharatnet progress monitoring of OFC network, ABD mapping
- Integration with NMS for live status visualization of OLT and ONT on map
- Mobile applications for asset capturing from the field officers - during work execution, ABD network capture

Mobile App: Bharatnet progress App, ABD data capture App

GIS support to Bharat Broadband Network Limited (BBNL)

(<http://geourbanmissions.gov.in/>) has been developed for the Ministry of Housing and Urban Affairs (MoHUA) for visualization and monitoring of various schemes such as Swachh Bharat Mission (SBM), Prime Minister's Awas Yojana (PMAY), Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Smart Cities, Deendayal Antyodaya Yojana-National Urban Livelihoods Mission (DAY-NULM) and Jal Shakti Mission.

- Road & Highways GIS Based System for State Highways Assets for West Bengal State High Development Corporation: The GeoAsha Application (<http://wbgis.nic.in/GeoAsha/>) of State Highway Assets has already been released in public domain.

- Punjab Agriculture Marketing Board and Public Works Department (PWD): Mapping of all roads, managed by the Mandi Board & PWD, as value addition at top of road layers, has been done and generated by NIC using high resolution satellite data service from NICMAPS GIS platform. This also covers the creation of Agriculture Produce Marketing Committee (APMC) boundaries by field staff of the State Government. This application (<https://punjabroadsgis.gov.in/>) and a Mobile Application i.e., Punjab Sadak Sewa were launched for reporting and monitoring the condition of roads.

- Ministry of Food Processing Industries (MoFPI): A GIS based application (<http://indiafoodprocessingmap.nic.in/>) for resource mapping has been developed for MoFPI as a part of their Investor portal. This provides crop production statistics and infrastructure details like food parks, food testing labs, cold chain etc.

Training and Capacity Building

A weekly training programme is conducted by RS & GIS Division to train NIC officers on the use of GIS services in their applications. Over 500 officers have already been trained, and about a dozen departments have shown interest in utilizing the services.

Awards & Accolades

- ESRI's Special Achievement Award to NIC for GIS in 2017
- Asia Geospatial Excellence Award to NIC for Bharat Maps in 2017
- Gems of Digital India Jury Choice Award to Bharat Maps in 2018
- Technology Sabha Award to Bharat Maps project in Enterprise Applications category
- Certificate of Appreciation to NIC for enabling DOT in achieving Bharatnet Phase 1 target of 1 lakh Gram Panchayats



“GIS is a key pillar of Digital India programme, and NIC has been leveraging GIS in various e-Gov applications for more than two decades and is the main organization responsible for geo-enabling use of maps in e-Gov applications and mainstreaming of GIS in ICT systems in the government.

With the support of erstwhile Planning Commission and MeitY, RS & GIS Division has prepared a huge repository of geospatial data and is being deployed as a service in Bharat Maps. We are dovetailing GIS into workflow of various Ministries to keep the data current and relevant. Bharat Maps platform is being continuously updated to provide new and innovative services like geocoding, reverse geocoding, map as a service etc.

VISHNU CHANDRA
Deputy Director General
National Informatics Centre

- Certificate of Appreciation to NIC for Outstanding Contribution in Management and Implementation of Gram Swaraj Abhiyan and Extended Gram Swaraj Abhiyan
- Digital India Award 2018 to the Department of Financial Services (Gold category) in Web Ratna (Ministry/Department) for the mapping of financial infrastructure across the country to facilitate financial inclusion of rural masses so that DBT can reach the unreached

GIS for Financial Inclusion

Layers Integrated

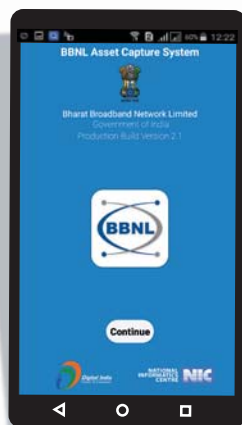
- 01 Bank Branch/ ATM/ Bank Mitra
- 02 Post Office
- 03 Common Service Centre (CSC)
- 04 Fairprice Shops
- 05 Village as a point with information on mobile coverage

URL: <http://dbtgis.nic.in/bankgis/> (G to G),
<http://findmybank.gov.in/> (G to C)

Key Features

- 01 Workflow based application for data creation
- 02 Gap Analysis for uncovered villages
- 03 Area of interest with statistics
- 04 Role-based access to all stakeholders

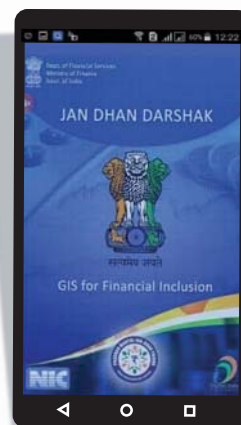
Mobile App: Jan Dhan Darshak



BBNL



PUNJAB SADAK SEVA



JAN DHAN DARSHAK



COMMON SERVICE CENTERS

Mobile applications using Bharat Maps

Vision

Geography or Geo-spatial is a core foundation for decision support systems and is a platform by default, where man-made as well as natural events or phenomena interact real-time in parallel simultaneously. Therefore, it is defined as “Science of Where”. Though “Computing” as a science is a sequential process, with advancement in digital technologies (such as supercomputing and parallel processing) including various data capturing platforms, viz. Internet of Things, sensors, Unmanned Aerial Vehicle/ drone, mobile, and Light Detection and Ranging (“Science of When”) as well as analytics platforms, viz. Big Data and Artificial Intelligence/ Machine Language (“Science of What”), we are in the process of building an end-to-end ecosystem, deploying near real-time “geo-vision” as core foundation of decision-making and governance process.

There is a need of technology partnership with leading technology providers (copyright or open source) for a unified technology platform around open standards, not only for GIS but also for Location Based Services, Satellite Based Image Services as well as Ground/ Aerial Based Digital Survey Systems.

There are many proprietary GIS technologies (like ESRI, Here Maps, Hexagon, Planet, Trimble, Bentley etc.) as well as Open Source Solutions (like

Geo-Server, Post GIS, QGIS, GRASS, Map server etc.). Though, in view of the above, the idea to have a “Unified Geo-Spatial Technology Platform” is an excellent one, it needs to be approached in a holistic manner with proper direction and appropriate technical resources and investments.

Conclusion

GIS is enabling Digital Transformation for Sustainable Economic Development. It means end-to-end service delivery covering work flows, business activities, processes, competencies and models to fully leverage changes in planning and decision-making so that benefits, positive impact and opportunities get created at all levels of the society. It is to be noted that “GIS enabling” is a process “embedded as core to sustainable transformation”. This is what the current practice is adopted by NIC as part of core technology support and service delivery integrated with geo-spatial component for location based e-Governance. NIC’s Multi-Layer GIS Platform, Bharat Maps defines such a multi-scale and multi-resolution service oriented framework, which is leveraging

even API based OGC compliant (WMS, WFS etc.) map services to get integrated with e-Governance work flows associated with flagship programmes of the Government such as Swachh Bharat Mission, Schools, Telecom, Health, Drinking Water & Sanitation, Rural Development & Panchayati Raj, Roads and Agriculture.

In the above context, as an extension for future road map, the word “Digital” represents enhanced technology solutions with integration of emerging technologies, viz. Big Data, Location Intelligence, IoT, Sensor Enablement, Drone and LIDAR, with GIS as a part of end-to-end service delivery platform. NIC is working towards enhancing the current offerings by scaling up the GIS cloud infrastructure to meet the ever increasing demand for GIS services at various levels of the Government both at the Central and State levels. NIC is also collaborating for various e-Gov projects to enhance the GIS content and asset database, which will help Ministries and Departments in providing enhanced geospatial services to various stakeholders. ■

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mParivahan

A citizen-centric transport solution enriched with latest technologies



mParivahan Mobile App has become an integral part of the transport ecosystem in a very short duration and gained significant mindshare of the citizens, government and businesses alike. By virtue of its huge popularity and features like Virtual DL & RC, QR code-based verification etc., it has made it to the list of most downloaded government Apps.

Edited by **MOHAN DAS VISWAM**

mParivahan is an effective citizen-centric transport solution, primarily a mobile-based App for citizens and transport operators, providing access to all the transport services related to driving license, vehicle registration, taxation, fitness and vehicle permit. The App is applicable across the country, covering all the driving license (DL) and registration certificate (RC) holders, and its key stakeholders are citizens and enforcement agencies.

The App comprises:

- A mobile-based platform with Virtual RC/ DL Certificate options in place of paper-based documents and Regional Transport Office/ Traffic Office locations etc., services
- A web-based platform for Analytics, Management Information System (MIS), Reports etc., requirements of various stakeholders

Technologies Used

- Application Platform: PHP
- Web Server: Apache
- Framework: Laravel
- RDBMS: PostgreSQL
- Web Services: RESTFUL
- Operating System: Linux, Android, iOS

Innovations Applied

Enabling a foolproof mechanism, the QR code-based encryption of Virtual DL & RC has been done for offline verification. This ensures convenience to citizens as well as efficiency for enforcement agencies.

Benefits/ Impact

- Serving majority of the user base, as it

is available in Android (open source) as well as proprietary operating system such as iOS, which are the two most prevalent platforms for mobile phones

- Engineering a 180-degree shift in the earlier process that saves citizens from the hassle of carrying physical documents/ cards for verification/ inspection/ offence filing related purposes, as Virtual DLs/ RCs are now acceptable
- Easily locating the nearby RTOs through the RTO guide feature in the map
- Ensuring rule compliance through integration with eChallan that enables enforcement officers to facilitate the verification of information (limited)



“

The mobile-based solution for various RC and DL services, in the form of mParivahan, has been remarkable in providing the power of anytime, anywhere access in the hands of citizens.

I appreciate NIC whose technological prowess and sustained efforts have enabled addition of another beautiful solution under the eTransport MMP umbrella. The huge popularity and acceptability of the citizen-centric Mobile App, with more than 1.31 crore downloads in a short span of time, is a testimony to that. I believe that with the continuous support from NIC, we shall continue to succeed in making the life of citizens, government and businesses easier.

PRIYANK BHARTI, IAS

Joint Secretary (MVL)
Ministry of Road Transport and Highways

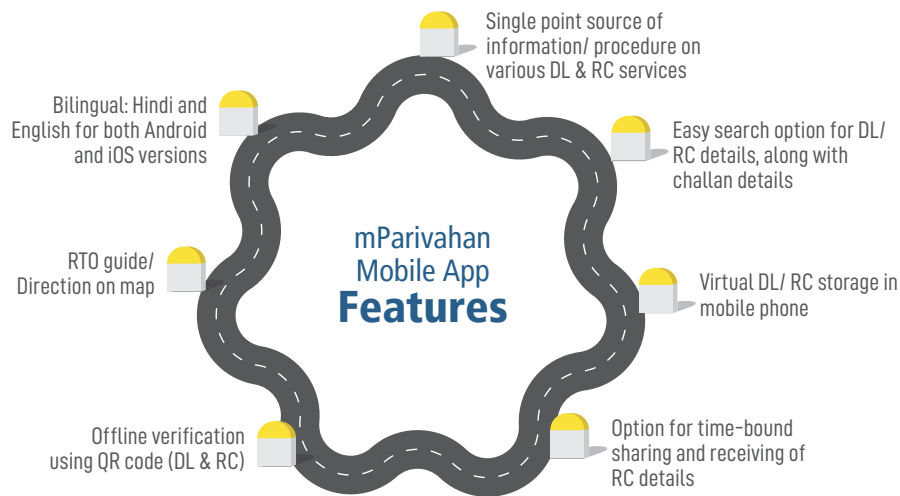
”

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▲ mParivahan Mobile App

pertaining to owners of other vehicles during sale, purchase etc., activities

- Avoiding need for dedicated IT infrastructure, as it is integrated with other databases (eChallan, Vahan, Sarathi) for sharing/ receiving data through APIs
- Performing high on user friendliness quotient i.e., citizens need minimal guidance/ training on the usage of various features
- Working in integrated mode (API based) with eChallan enforcement solution, Vahan and Sarathi databases, enabling:
 - Rule compliance, as enforcement can fetch challan history, payment

details etc., for a citizen on real-time basis

- Use of minimal dedicated infrastructure for mParivahan
- Seamless, in-sync ecosystem
- Encrypting Virtual DL, RC details in the QR code for offline verification, which is a foolproof mechanism ensuring convenience to citizens and efficiency for enforcement agencies

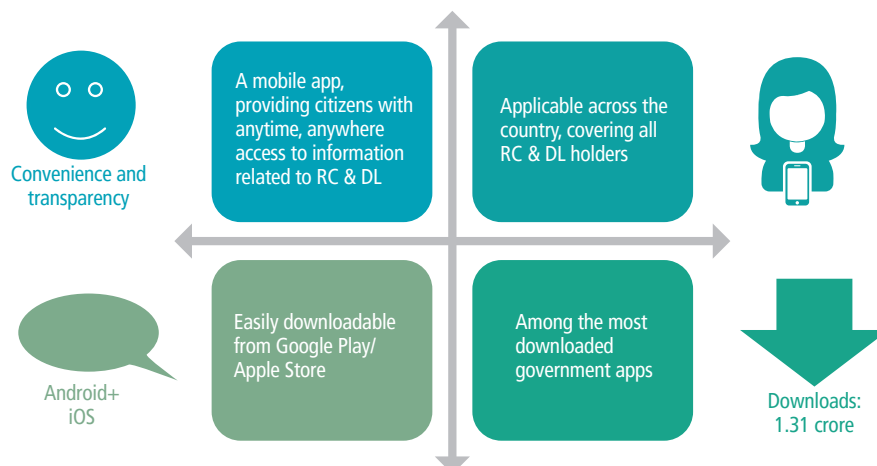
Key Statistics

- Total App downloads: ~1.31 crore
- Total number of registrations: ~61 lakh
- Total number of Virtual DL/ RC: ~80 lakh

Way Forward

The mParivahan Mobile App is dynamic in nature, being enriched continuously with new features and functionalities that are empowered by the adoption of latest technologies and practices. Following points majorly capture the envisaged journey for mParivahan solution:

- Introduction of a feature for real-time offence and accident reporting by citizens
- Enhanced integration with all stakeholders like eCourts etc.
- Notifications on vehicle tow away
- Adoption of more digital payment options like mParivahan wallet etc.
- Multi-language support on the App
- Emergency services provisioning through the App
- Geofencing based services
- Road Accident Analytics for on the spot decision and forecasting based on a particular area, road condition, driving speed etc. ■



▲ Factual status as in November 2019

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NICCI Chatbot Service

The Smart Virtual Assistant



Chatbots are systems based on artificial intelligence that we interact with in natural language via text or voice interface. NICCI (NIC Chat Interface) is a smart and intelligent chatbot service developed by NIC Rajasthan. NICCI can be integrated with any portal without coding requirement. The service uses proximity rules, bot rules and language rules for maximum weighted reply. It also has an audio support.

Edited by **SARBJEET SINGH**

NICCI (NIC Chat Interface) is a dynamic and smart chatbot service developed by NIC Rajasthan to provide chatbot interface to any portal. The virtual assistance service has been developed in a way so that it may be plugged with any application portal without any programming requirements. It is a voice-enabled service, and as soon as a query is asked by a user, it breaks the query into meaningful words to find out a suitable reply. NICCI assesses user's query to give related responses by typing on the bot and also through speech. Using this service, users can quickly receive responses of any queries related to the domain and that too without any staff engagements. NICCI is very useful for citizen specific portals where 24x7 assistance is required. It is noteworthy that the service is Hindi enabled i.e., any query asked in Hindi is answered appropriately.

The bot is supported by a Content Management System (CMS), which is used to enhance bot knowledge, configure and to monitor the progress of the chatbot. Unanswered queries are also stored and provided to the portal admin through CMS so that it may be suitably answered to enhance the knowledge of the bot.

NICCI chatbot service was launched by Shri Abhay Kumar, Principal Secretary, Department of Information Technology & Communication, Government of Rajasthan, during a State-level function held in Jaipur. The service has been integrated with the Civil Registration System, Pehchan, used for birth, death and marriage registrations in the State. With the help of this service, citizens are quickly receiving answers related to acts, rules, registration process and any new developments in the civil registration process in the State. With the popularity of NICCI in the Pehchan portal, citizens are more interested in raising queries through the chatbot rather than calling the toll-free helpline. With this success, NICCI is being integrated within other portals of the State.

Salient Features

- Dynamic and configurable chatbot service
- CMS for configuration and setting
- Maintains ranking of questions
- Voice-enabled responses
- Secured chatbot
- Portal specific hit counter
- Responsive chatbot may be configured for any portal or Mobile App
- Bot rules
- Regional language support
- Offensive dialogues with the bot are muted
- User's star rating
- User's feedback

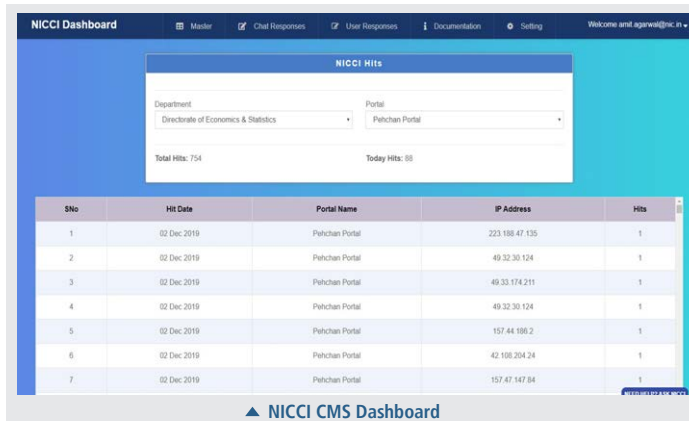
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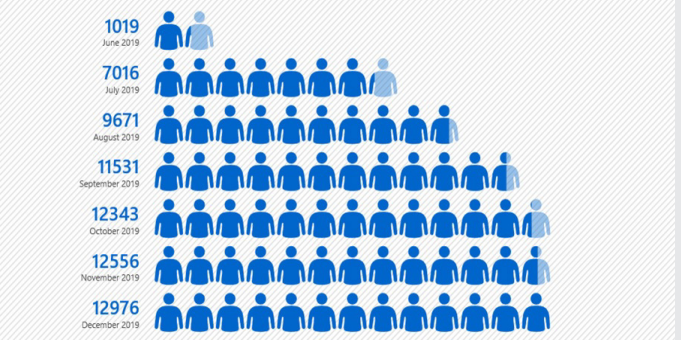
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Shri Abhay Kumar, Principal Secretary, Dept. of IT & Communication and Planning inaugurating NICCI Chatbot



Total Hits



Technologies Used

- Chatbot is developed in JAVA Script, ASP.Net with C#.
- Backend database is SQL Server.

Content Management System

A CMS has been developed for maintaining and enhancing contents of the chatbot. The portal administrator has access to the CMS where multiple portals of the same administrator can be mapped. The administrator can maintain responses related to the portal through the CMS. Bilingual responses (Hindi and English) can also be maintained to enable the bilingual chatbot interface. CMS also maintains unanswered queries i.e., queries that were asked by users but could not be replied by the bot due to insufficient knowledge. These queries can be answered through the administrator dashboard so that bot knowledge can be enhanced, and the same query from a user can be suitably answered next time.

It also shows the ranking of questions, hit counter and related options to the portal administrator. Chatbot background color, font, portal logo, portal name and helpline number to be displayed on the bot can also be configured through the CMS. These options can be tested on the CMS before making them live.

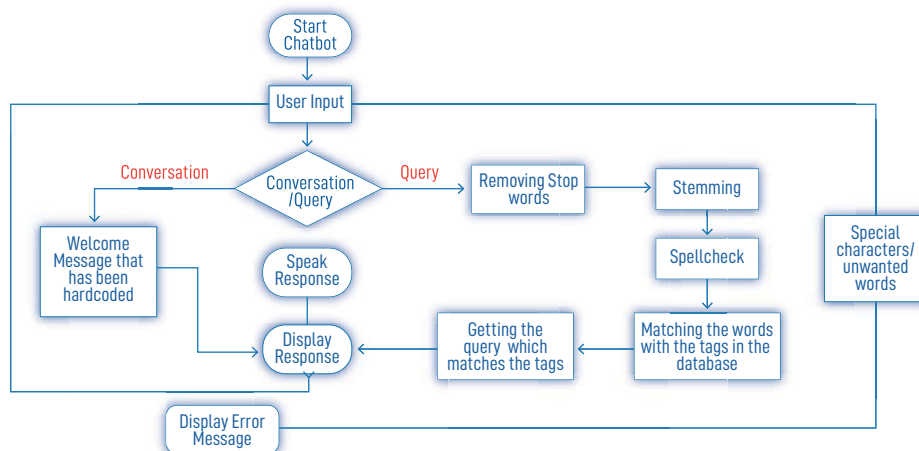


Benefits

- Generic chatbot can be plugged in with any portal.
- User-friendly and easy-to-use interface
- 24x7 digital assistance specially for citizen-centric portals
- Improved citizen service/ satisfaction
- Used to monitor satisfaction level data
- Regional Language Support
- Query answered by speaking to cover larger audience
- Cost-effective solution
- Learning to enhance knowledge base

Way Forward

- NICCI chatbot will be integrated with other portals to provide assistance to citizens.
- Speech recognition interface is to be developed so that typing can be avoided, and users may ask queries by talking to NICCI in natural language.
- User feedback and rating will also be collected online.
- More functioning related to Natural Language Processing (NLP) will be adopted. ■



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National Generic Document Registration System

A comprehensive application making property registration process simpler and efficient

Edited by **AK DADHICHI**

The launch of NGDRS has started a new era in the process of registration of documents and properties. The procedure from applying for registry to paying stamp duty and court fee is easier, thereby eliminating the need of repeated visits to the sub-registrar's office.

A project initiated by the Department of Land Resources, Ministry of Rural Development, Government of India, the National Generic Document Registration System (NGDRS) is a common, generic and configurable application developed for registration departments across the country. The application is specifically designed for the use of sub registrars, citizens and apex users from registration departments. NGDRS facilitates states to create state specific instance and configure the software as per requirements.

Offering a complete user interface for property and document registration, the application enables citizens to proceed with land buying online. They can find out the circle rate for land, calculate property valuation as per prevailing rates and understand the type of land. Transactions of prohibited properties are restricted for

sale like government land, tribal land, mortgaged land etc., is also available, which ultimately helps them decide where and what type of land they should buy. Thereafter, they can apply online for document submission, make instant payment and take prior appointments. Property buyers need to visit the sub-registrar's office only once and that too at the time of final signing and registration. This entire workflow has not only proved to be beneficial for citizens but has also increased productivity of the department staff.

Objectives

With technology being one of the major enablers, it is ensured that registrations and delivery of documents to the parties happen faster in comparison to the conventional methods. The broad level objectives are:

- One Nation One Software
- Generic platform for registration of properties and document across the country
- Citizen empowerment by enabling property valuation and online document submission
- A single platform of all the stakeholders in registration process

Development of NGDRS

The product has been developed using open source development tools. It is a web-based system implementing single instance for an entire state. As the name implies, the software is generic in nature



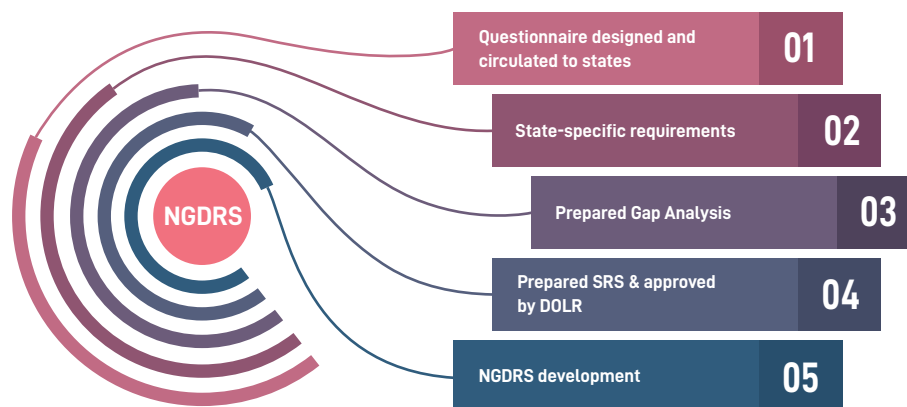
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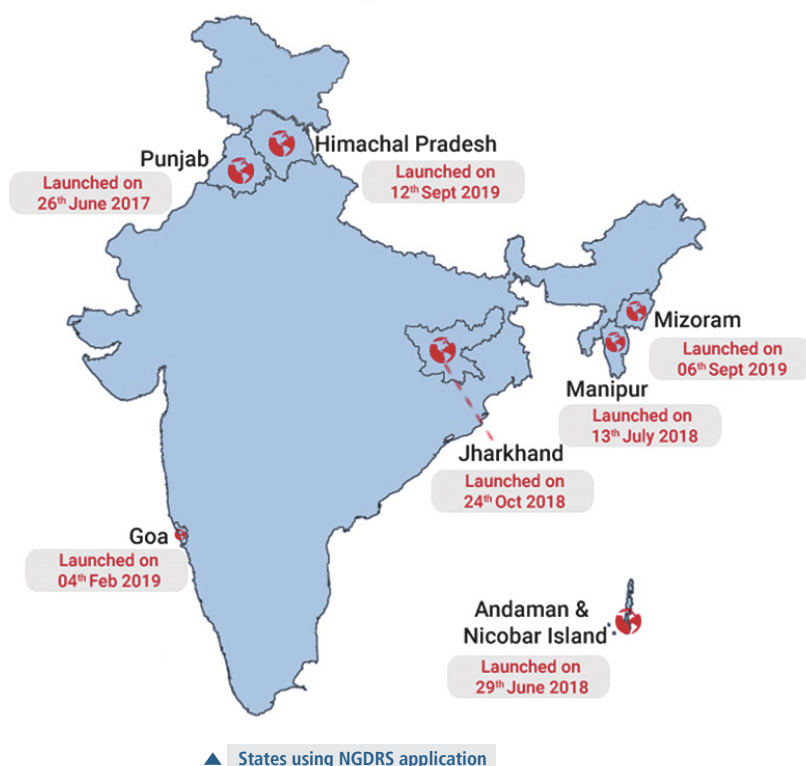
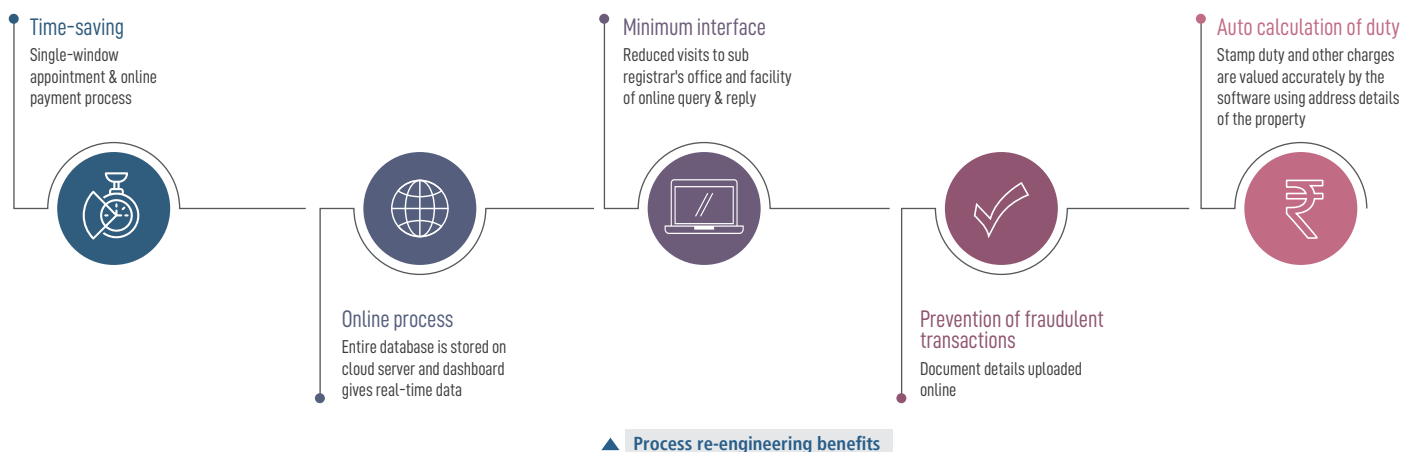
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▲ NGDRS development process



Features

- Citizen's registration to request the access permission of the system
- Facility for online document entry for citizens
- Online valuation module with stamp duty calculation
- Role based access to citizens and department users
- SMS facility to send alerts to citizens and departmental users
- E KYC – UID based authentication with the help of biometric or iris at the time of admission
- Hierarchy based maker/ checker facility
- Email enabled alerts to citizens and users
- Linking with land records system
- Linking with stamp inventory software to avoid duplicate usage of used stamp paper
- Storage of copy of registered documents using scanning technology
- Facility to view & download scanned documents and generate certified copy of authorized user
- Registration can be done anywhere within concurrent jurisdiction
- Unicode based local language support
- Single log in credentials for all modules

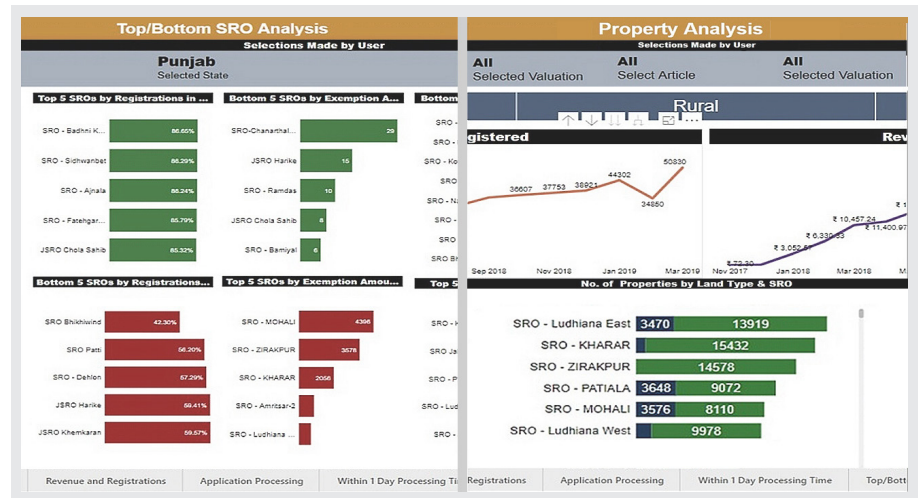
and is deployed as state specific instance. The development was carried out considering the uniqueness and practices in all states' registration departments. Following steps were involved in the same:

- A questionnaire was designed and circulated to Inspector General of Registrations of all the states and majority of them were filled as per state specific requirements with the help of local NIC officials.

- Based on the inputs, a gap analysis report was prepared.
- Thereafter, a System Requirement Specifications document was prepared, which was approved by the Department of Land Resources at the Government of India level.
- Finally, based on the requirements elicited from the tacit knowledge of functionaries, a product came out called NGDRS.

Registration Process

National Generic Document Registration System has made the registration process easier so that citizens can quickly adapt to the system and start utilizing it.



▲ Data analytics used for NGDRS

Rollout of NGDRS

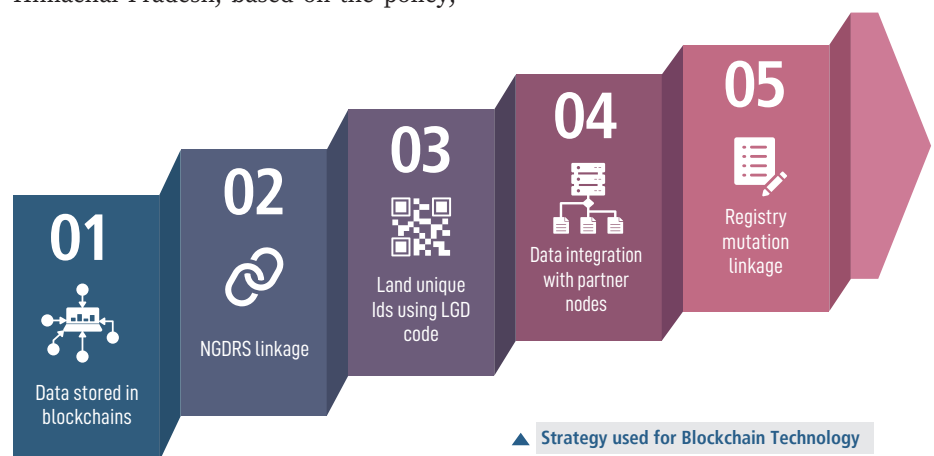
As on 31st December 2019, the product is being used in seven States. These States are Punjab, Andaman & Nicobar Islands, Manipur, Jharkhand, Goa, Mizoram and Himachal Pradesh, based on the policy,

“One Nation One Software”, the dream of Shri Narendra Modi, Hon'ble Prime Minister of India.

Enterprise Architecture Framework of NGDRS

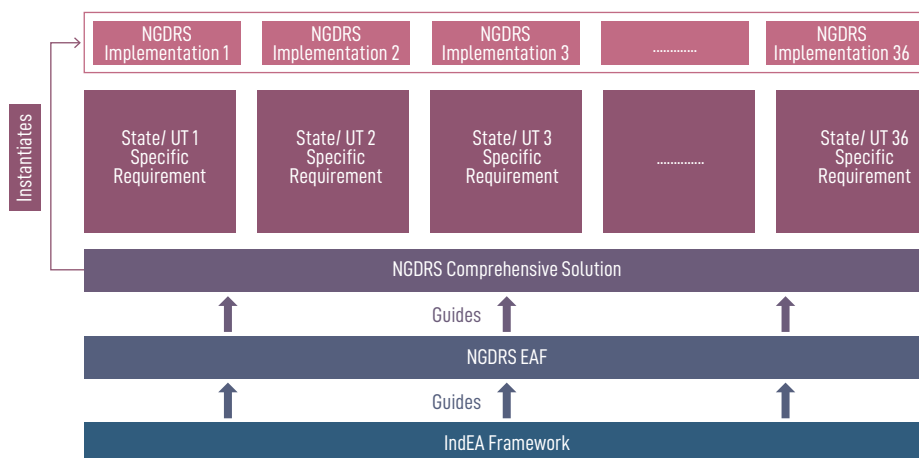
Enterprise Architecture (EA) is a conceptual blueprint that defines the structure and operation of an organization. Enterprise Architecture framework for NGDRS has been developed.

It is noteworthy the framework bagged an Award at the National Awards for eGovernance for the year 2018-19.



▲ Strategy used for Blockchain Technology

▼ Framework of NGDRS Project



Way Forward

The National Generic Document Registration System has now moved a step ahead by introducing data analytics and blockchain technology. The proof of concept is now on the roll for both technologies. ■

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Jaivik Kheti UP

Organic farming or Jaivik Kheti is being promoted by the Government of India for adopting traditional practices of farming, which avoids the use of chemical fertilizers and chemical pesticides. Jaivik Kheti UP Mobile App has been conceptualized to help farmers understand the advantages and methodology in adopting organic farming techniques in the agro-climatic conditions of Uttar Pradesh.

Developed by NIC UP, the Android App delivers a variety of organic farming information, techniques and methodology required to be adopted as per the State's environmental conditions. The App delivers text in Hindi (Unicode) to help especially farmers belonging to Hindi speaking State such as Uttar Pradesh.

Features

- ◆ Provides information on the use of organic products for increasing yield and the use of bio-species to treat weeds
- ◆ Provides method of preparing organic fertilizers from Vermi compost
- ◆ Provides information on the method and management of harmful insects affecting crops through the use of Nishi Jeev Prabandhan from bio wastes
- ◆ Provides information on adopting Fasal Chakra for improving soil health and balanced use of fertilizers

 **Sanjay Kumar Srivastava**
(sanjay.srivastava@nic.in)



<https://play.google.com/store/apps/details?id=app.jaivikkheti>

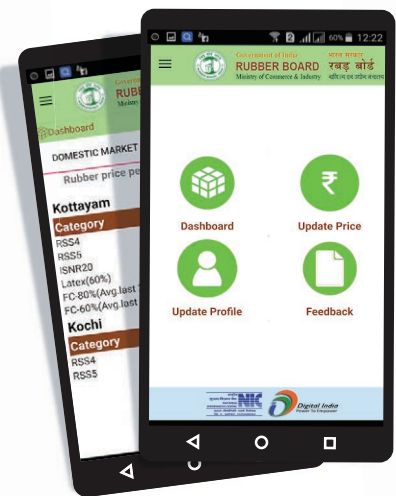
Rubber Trade Info

Developed by NIC Kerala, the Rubber Trade Info Mobile App is used to collect daily market sales price of different grades of rubber from dealers, processors and manufacturers of the domestic market, thereby avoiding time delays and repeated entry errors. The Android App collects price and sales quantity from the sources and compiles them using weighted average method around 3:00 pm to fix the domestic price of different grades of rubber.

Features

- ◆ Dashboard - To display the daily rubber price of grades in Kottayam and Kochi
- ◆ Update price - To input market price by the registered dealers, processors and manufacturers with daily/ weekly options to input date, grade, price per 100 kg quantity sold. At 2.30 PM, a notification popup issues an alert to input price and is repeated three times before 3:00 PM. At 3:00 PM, the available price is compiled on weighted average of the price in different grades. Correction factor is applied and domestic price is fixed at 3:00 PM. Once the price is approved by the Executive Director of the Rubber Board, it gets published to make it available on the Dashboard.
- ◆ Update profile - To change mobile number of the price source
- ◆ Feedback - To provide feedback to the Rubber Board

 **T. Mohana Dhas** (mohandhas.t@nic.in)



<https://play.google.com/store/apps/details?id=com.nic.app.rbpricecollection>

For Apps uploading queries:

eMail: mobileapps-nic@nic.in

Phone: 011 - 2430 5494 (Shri Deepak Mittal)

Visit the Mobile App Store

<http://egovmobileapps.nic.in>

Copying Agency

A Copying Agency or Copying Branch is established in all the Deputy Commissioner Offices in the State of Himachal Pradesh. This branch receives and processes requests made by citizens for copies of the revenue records, which are available in the District Record Room of Deputy Commissioner Offices. Citizens have to apply for the copy of document with the copying branch that charges a nominal fee and processes the request to issue the required document copy from the District Record room. Due to high volume of records, it becomes difficult for citizens and the District Administration to let applicants know the latest status of their application.

NIC District Centre, Shimla has developed an Android App to record the requests being received, thereby capturing the applicant's details and type of request. The App provides status of the document for which the copy is applied in the copying branch. A user can use the unique request number given at the time of application or their own mobile number to fetch the latest status of the request. They are also provided with information on documents being issued by the copying agency and also the procedure to apply for the copy of these documents.

 **Ajay Singh Chahal** (ajay.chahal@nic.in)



<https://play.google.com/store/apps/details?id=hp.nic.in.cmis>

TEAMS-T

Launched by the Department of School Education, Government of Chhattisgarh, TEAMS-T Mobile App provides an interface between teachers and government for official interactions such as profile, pay slips, service book and notifications for applying leaves, giving feedback etc.

Features

- Teacher's registration in the App through teacher code
- Teachers can view their pay slips in Pay Slip View.
- Teachers can view their service book details in Service Book View.
- Teacher Profile View shows their personal details, bank details, pay scale details, deployment and education details. Teachers can confirm if all the details in this section are correct or need correction.
- Teachers can take attendance of students and Mid Day Meal attendance using the Student Attendance feature.
- Orders, information, instructions, invitations and wishes are shared by the department to teachers through notifications in the teacher's application.
- Reports related to State Level Assessment are available in SLA Reports section.
- Teachers are able to enter the state level assessment marks through SLA marks entry.
- Teacher training and after training assessments related information can be viewed in the App.

 **Manish Kumar Kochar** (mkochar@nic.in)



<https://play.google.com/store/apps/details?id=com.cgeducation>

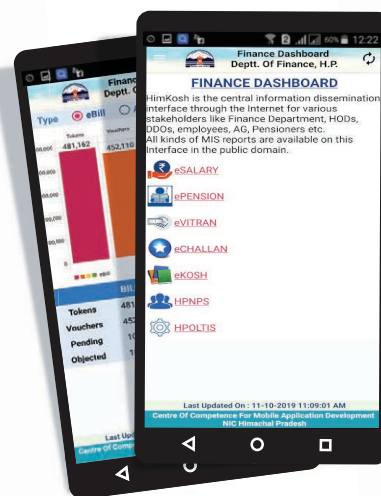
Finance Dashboard HP

Himachal Pradesh is one of the pioneer States in India to realize the importance of ICT intervention in the Finance sector, being the most critical factor for better management of a State Government's finances. The Directorate of Treasuries Accounts in the recent past has undertaken IT initiatives to increase the efficiency and effectiveness of service delivery of Treasuries in the State. These include development and deployment of various application software that are a part of the Integrated Finance Management System, known as Himkosh, developed by NIC Himachal Pradesh. Himkosh is supported by many Mobile Apps including the Finance Dashboard HP Mobile App, which is a graphical tool in the hands of government authorities at all levels of different departments. The Android App provides a consolidated overview to users on anytime, anywhere bases in real time.

Features

- Graphical representation of category wise employees and retirements in current month and year
- Category wise live pensioners, percentage of budget utilization on account of pension
- Stage wise position of eBills,
- Plan/ Non-plan wise budget, budget distribution position etc
- GPF withdrawals, and more

 **Ajay Singh Chahal** (ajay.chahal@nic.in)



<https://play.google.com/store/apps/details?id=nic.hp.financedashboard>

UDS-CG

An initiative by the Department of School Education, Government of Chhattisgarh, the UDS-CG App has been developed for schools to perform multiple functions like student progression, new joining, update result, receiving and distribution of text books, receiving and distribution of uniforms to students etc.

Features

- New student's entry - To enter details for admission of new students
- Edit/Delete new student's details - To edit and delete details of new students entered through the Application
- Progression - To mark joined/ not-joined/ duplicate status against each student
- Student's result update - To update the result of students from 9th to 12th standards and mark passed/ passed and TC issued/ failed/ failed and TC issued
- Receive textbook - To update the quantity of books received from cluster in case of 1st to 8th standards and the quantity of books received from Text Book Corporation in case of 9th and 10th standards
- Progression completion status - To submit the final status of completion of progression of students
- Assessment data entry (periodic and formative) - To enter the marks of the periodic and formative assessment of students from 3rd to 8th standards

 Manish Kumar Kochar (mkochar@nic.in)



<https://play.google.com/store/apps/details?id=nic.cg.education.shalakosh>

Delhi High Court

Serving as a single point of reference for citizens, litigants and advocates, the Delhi High Court Mobile App facilitates various operations including access to important links of the Delhi High Court website.

Features

- Case Status can be searched using various search options like Case Number, Party Name, Advocate Name etc.
- Litigants can apply for issuance of new entry pass using Gate Pass Request tab to visit Delhi High Court.
- Special features have been provided under Advocate Login tab for advocates already registered with Delhi High Court e-Filing software. They can create login Id by entering their registered mobile number.
- Cases can be added and saved in the Case Status option under Advocate Login. It helps advocates create and manage their personal case diary.
- Registered advocates can submit their application for e-Inspection.
- Options such as View Display Board of Delhi High Court, View Display Board of Supreme Court of India, View Cause List of Delhi High Court and View Calendar of Delhi High Court can be used to access required information.
- The Important Links option helps access various links of the Delhi High Court website, for e.g., Certified Copies, Case History etc.

 Yogesh Khandelwal (yogeshk@nic.in)



<https://play.google.com/store/apps/details?id=highcourtapp.com.highcourtapp>

eGazette Chandigarh

The Department of Printing and Stationery, Chandigarh UT Administration has digitized the publication of Gazette with effect from 1st October 2019. The eGazette Application (<https://egazette.chd.gov.in/>), developed by NIC Himachal Pradesh, has been customized and replicated by NIC Chandigarh UT. The official Gazette has legal and regulatory significance and implications because the notifications come in effect from the date of publication in the official Gazette of the Administration.

Available in both Android and iOS platforms, the eGazette Chandigarh Mobile App supplements the web interface by listing the latest notifications published in the official Gazette of the Administration. The subject of notifications is shown in the App and a user can access a complete individual notification by clicking it, which opens the related digitally signed Gazette. The Gazettes and notifications published after 1st October 2019 are searchable based on the keywords and subject mentioned at the time of publishing the notification.

A user can also opt for advanced search to search desired notifications and can also use the option to save search results locally for any future use.

 Vivek Verma (vivek.verma@nic.in)



<https://play.google.com/store/apps/details?id=nichp.ch.eGazette>

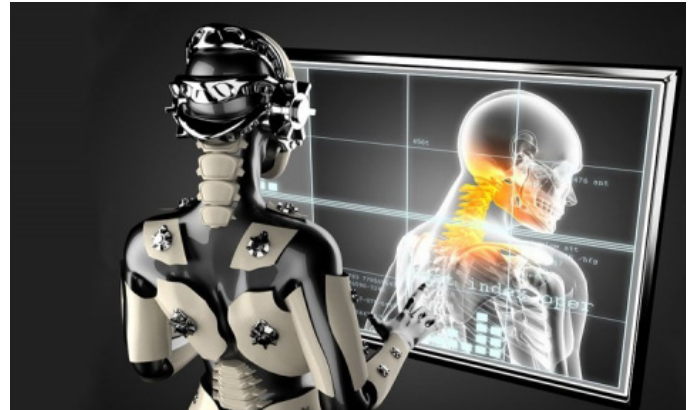
Artificial Intelligence to help in palliative care

According to WHO's definition, palliative care is a method that helps in raising the quality of life of patients and their families facing the problem related to life-threatening illness. This can be done by prevention and relief of suffering by means of initial identification and perfect assessment of physical, and psychosocial treatment of pain.

The University of Vermont's Vermont Conversation Lab have studied with help of machine learning and natural language processing to better comprehend the difficult conversations which patients and their families have, which could ultimately help healthcare providers improve their near-death communication.

Mr. Robert Gramling, Director of the Lab in UVM's Larner College of Medicine, who led the study, published in the journal, Patient Education and Counselling, commented, "We want to understand this complex thing called a conversation." "Our major goal is to scale up the measurement of conversations so we can re-engineer the healthcare system to communicate better."

They wanted to find out the kinds of conversations that people have around serious ailments to identify the common features they have, if they follow common storylines. To do this, they used the techniques used in the study of fiction, in which machine learning algorithms analyze the language of fiction manuscripts to identify different types of stories.



His team adapted this method to examine 354 transcripts of palliative care conversations collected by the Palliative Care Communication Research Initiative, which involved 231 patients in New York and California.

In conclusion, this information could help healthcare practitioners find out what makes a good conversation about palliative care, and how different kinds of conversations will require different responses. This will result in getting interventions made that are matched to what the conversation indicates the patient needs the most.

Source: <https://www.industryglobalnews24.com>

Bank of China uses Blockchain to issue \$2.8b worth of financial bonds

The adoption rate of blockchain technology in China continues to impress as the Bank of China has reportedly issued 20 billion yuan (\$2.8 billion) in blockchain-based special financial bonds for small and micro-enterprises. According to local news outlet Sina Finance in early December, the funds are specifically used to issue loans to these Chinese small and micro-sized companies to support their continued development in the economy.

As of the end of September, the Bank of China issued around 404 billion yuan (\$57.7 billion) to 410,000 small and micro enterprise customers, representing an increase of 35% since a year ago. As a reference, micro-enterprises generally have fewer than 10 employees, while small companies have up to 50 employees.

The news comes as the Chinese government is attaching an ever-increasing level of importance to the digital economy. Earlier in December, Forkast Insights, the research arm of Asia-based Forkast, took an in-depth, comprehensive look at how blockchain technology is integrated in China.



The report pointed out that blockchain technology is rapidly maturing in China and has a slew of "real-world, practical use cases that are far beyond the experimental stage."

In November, Cointelegraph reported that China's blockchain development will see a compound annual growth rate of 65.7% from 2018 to 2023, and that the technology will exceed \$2 billion by the end of 2023.

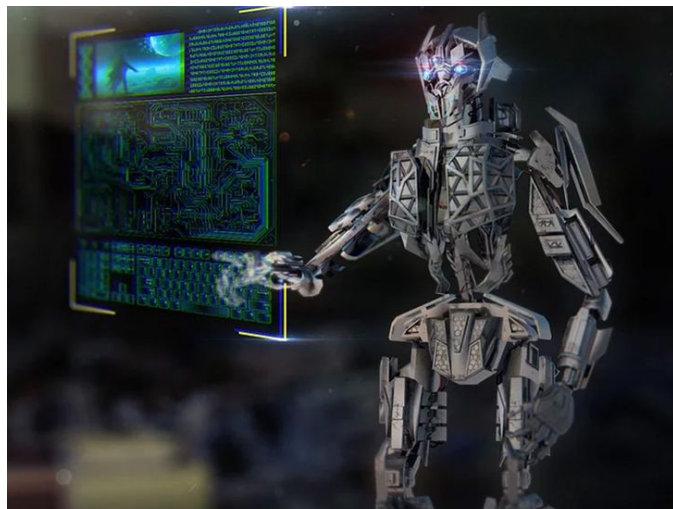
Source: <https://cointelegraph.com/>

AI, Robotics Global Roundtable Series launched in Dubai

The Dubai Future Foundation has launched a series of Global Roundtables under the theme, 'Value of AI and Robotics', in partnership with the Knowledge Centre for Data and Society in Brussels, GovLab in New York and Project Syndicate. The series began in the UAE and will also be carried out in Belgium and the United States. The series first kicked off in Area 2071, in Dubai, with the participation of local and global experts from the public and private sectors, in addition to representatives of international institutions and technology solutions providers.

Participants discussed the impact of Big Data, Artificial Intelligence (AI) and Robotics on future functions and environments, how the ecosystem and infrastructure impact regulatory frameworks and assessed ways to leverage the tools of the Fourth Industrial Revolution to deliver significant benefits in vital sectors. They also evaluated current and future challenges, and proposed solutions to cope with emerging market needs.

Mr. Abdul Aziz Al Jaziri, Deputy CEO and Chief Operations Officer, Dubai Future Foundation said, "Hosting the first gathering focused on the value of AI and robotics in Dubai underlines its global leadership in adopting advanced technologies to achieve rapid leaps in the era of the Fourth Industrial Revolution."



According to the Foundation, the roundtables will focus on three main themes including enabling emerging technology ecosystems and infrastructure, exploring how institutions can integrate new tech in traditional business models, and leveraging AI to create and capture value within new business models.

Source: <https://gulfnews.com/>

New Zealand releases cybersecurity governance resource

New Zealand's Government Communications Security Bureau (GCSB) is encouraging public and private sector leaders to get more connected with the cybersecurity governance of their organisations. According to a press release, the Bureau's National Cyber Security Centre (NCSC) has produced a resource for boards to help improve cybersecurity governance.

This follows from a study of the cybersecurity resilience of the country's organizations.

The NCSC study involved interviews with cybersecurity professionals from 250 of New Zealand's nationally significant organisations. Through this, they were able to assess cybersecurity resilience using measures drawn from a range of security frameworks.

Mr. Andrew Hampton, Director General, GCSB explained that the assessment identified a gap between leadership and governance and cybersecurity practice across many organisations.

This was one of four focus areas; the others were preparedness,



investment and supply chain. The NCSC is producing a range of guidance resources as part of the agency's work to help organisations lift cybersecurity resilience in these areas. The guidance resources will help organisations focus their efforts.

The first of these resources, focusing on improving cybersecurity governance, has been published by NCSC. Resources in the other focus areas are to follow in 2020.

Source: <https://www.opengovasia.com/>



Shri Ram Nath Kovind, Hon'ble President launching the web portal

Hon'ble President launches web portal of National Youth Parliament Scheme

Shri Ram Nath Kovind, Hon'ble President of India launched the National Youth Parliament Scheme (NYPS) web portal at the central hall of the Parliament of India on the Constitution Day celebration on 26th November 2019, in the august presence of Shri M Venkaiah Naidu, Hon'ble Vice President of India, Shri Narendra Modi, Hon'ble Prime Minister of India, Shri Om Birla, Hon'ble Speaker, Lok Sabha and Shri Pralhad Joshi, Hon'ble Minister of Parliamentary Affairs.

To give shape to the Hon'ble Prime Minister's vision of organizing youth parliaments in all parts of the country, the Ministry of

Parliamentary Affairs (MoPA) has devised a web portal based National Youth Parliament Scheme, with the aim of spreading spirit of democracy to every nook and corner of the country. In order to develop democratic ethos amongst the younger generation, MoPA has been implementing Youth Parliament programme since 1966 in schools under the Directorate of Education, Govt. of NCT of Delhi and NDMC, Kendriya Vidyalayas, Jawahar Navodaya Vidyalayas and Universities/ Colleges. So far, around 8000 educational institutions and more than 4,00,000 students have been covered under the Youth Parliament programme of the Ministry. To increase the coverage of the Youth Parliament programme to all recognized schools/ colleges all over India, the Ministry has developed a web portal on National Youth Parliament Scheme in coordination with NIC. It aims to bring all the educational institutions under the Scheme.

- Informatics News Desk, NIC-HQ



Shri Ram Nath Kovind, Hon'ble President of India, Shri Justice Sharad A. Bobde, Hon'ble Chief Justice of India and Shri Ravi Shankar Prasad, Hon'ble Minister for Law & Justice, Communications and E&IT during the launch of Mobile App

Official Mobile App of Supreme Court launched in New Delhi

The official multilingual Mobile App of the Supreme Court of India was launched at a programme organized to mark the celebration of the momentous event of Constitution Day at the Auditorium, Additional Building Complex, Supreme Court of India, Mathura Road, New Delhi on 26th November 2019. Shri Ram Nath Kovind, Hon'ble President of India, Shri Justice Sharad A. Bobde, Hon'ble Chief Justice of India and Shri Ravi Shankar Prasad, Hon'ble Minister for Law & Justice, Communications and Electronics & Information Technology graced the occasion. Hon'ble Shri Justice N. V.

Ramana, Hon'ble Shri Justice Arun Mishra, Hon'ble Judges of the Supreme Court of India, Shri K. K. Venugopal, Attorney General for India and Shri Rakesh Khanna, President, Supreme Court Bar Association, Office bearers of SCBA and SCAORA and other dignitaries were also present.

Developed by eGovernance Support to the Supreme Court Division of NIC, the Mobile App (Android) provides authentic real-time access to Case Status, Display Board, Daily Orders, Judgments, Office Reports, Circulars and several other useful information for lawyers, litigants and citizens. Downloadable from the Supreme Court website and Google Play Store, the App has been developed in English, Hindi and six regional language scripts.

- Manoj Tuli, NIC HQ

NIC invited for the 5th Electronic Government Procurement Conference in Philippines

NIC was invited by the Asian Development Bank (ADB) at the 5th e-Government Procurement Conference of the Asia Pacific Public Electronic Procurement Network held at ADB Headquarters, Manila, Philippines from 1st to 2nd October 2019. The focus of the conference was based on Emerging Electronic Government Procurement (e-GP) Technologies and Innovation, and Regional Trends and Country Systems Experiences.

Smt. Usha Saxena, Sr. Technical Director & HoD (eProcurement) represented NIC at the conference. She delivered a lecture on 'Integrating Installations in a National System: The GePNIC Experience' in which she underscored NIC's experience on the widespread implementation of Government eProcurement as a single product across India. GePNIC is currently implemented across 28 States (Provinces) and as a Central Public Procurement portal in around 500 Central Government entities. This is one of the flagship projects of NIC,



Smt. Usha Saxena, Sr. Technical Director & HoD (eProcurement) delivering the lecture on GePNIC

which facilitates processing of 1.5 million electronic tenders per year worth 20,000 USD approximately.

The participants from around 70 countries were very keen to discuss and learn from NIC's success as well as the challenges faced in this area, specifically those countries that are trying to similarly integrate e-GP sub-systems.

- Praveen C Dhar, New Delhi

NIC & NICSi participate in Global Exhibition on Services 2019 held in Bengaluru

NIC and NICSi actively participated in the Global Exhibition on Services (GES) 2019, organized by the Ministry of Commerce & Industry, Government of India, in association with the Services Export Promotion Council and the Confederation of Indian Industry in Bengaluru from 26th to 28th November 2019. The Exhibition was inaugurated by Shri Piyush Goyal, Union Minister of Commerce & Industry and Railways, Government of India.

Reflecting the theme of the Ministry of Electronics and Information Technology, 'New India-Digital India', both the organizations, under the guidance of Director General (NIC), put up a grand show with dedicated efforts of the International Cooperation Division (ICD), NIC, Product Business Division (PBD), NICSi, New Delhi and NIC State Centre, Karnataka.

Shri B. Vinaya, Deputy Director General & State Informatics Officer (NIC Karnataka) and his Team, Smt. Anjali Dhingra, Senior Technical Director & General Manager (PBD, NICSi), New Delhi, Shri Anand Srivastava, Technical Director, ICD, NIC



NIC and NICSi Officers at the Global Exhibition on Services 2019

HQ, New Delhi, Shri Ashutosh P. Maurya, Scientist-D, CEDA, NICSi, New Delhi and Shri Shiv Kant Shukla, Scientist-C, CCBS Division, NIC HQ, New Delhi, participated in the Exhibition.

About 8 NIC and NICSi software products were showcased through print material, videos, presentations etc., at three stalls, and discussions were held with delegates of about 11 countries.

- S. Narasimha Rao, Karnataka

Automated Performance Smart-board launched by Hon'ble Minister for Law & Justice, Communications and E&IT

Consolidating multiple data sources into one centralized platform, the automated real-time performance smart-board (<https://meity.dashboard.nic.in/>) of various programme divisions of MeitY launched by Shri Ravi Shankar Prasad, Hon'ble Minister for Law & Justice, Communications and Electronics & Information Technology during a programme held in New Delhi on 3rd October 2019. Developed by NIC, the smart-board is a generic dashboard application tool, which is used to rapidly prepare and deploy dashboard for respective Ministries/ Departments. The configurable and integrated dashboard displays information of important programmes/ schemes in an objective and quantifiable way, thereby enabling a comprehensive view of the whole issue in a single window access for Centre, State or District specific projects.

Chaired by the Hon'ble Minister, along with Shri Ajay Sawhney,



IAS, Secretary, MeitY, the programme was attended by Shri Pankaj Kumar, Additional Secretary, MeitY, Shri M. S. Rao, IAS, President, National e-Governance Division (NeGD), Shri Sanjay Goel, Joint Secretary, MeitY, GCs, Dr. Neeta Verma, Director General, NIC, Shri D.C. Misra, Deputy Director General, NIC, Shri I. P. S. Sethi, Deputy Director General, NIC, Shri Pratik Srivastava, Deputy Director General & State Informatics Officer, NIC UP, Shri Vinay Thakur, Director, NeGD, Shri Avneesh Gupta, HoD & Senior Technical Director, NIC and other officers.

Nidhi Pahwa, NIC (MeitY)

DG, NIC delivers keynote address at Digital Transformation Summit 2019 in New Delhi

The 3rd Digital Transformation Summit was organized by Governance Now in New Delhi on 6th November 2019. Based on the theme, "Driving a Trillion-dollar Digital Economy", the Summit witnessed deliberations on efforts and initiatives taken by the Indian Government towards transforming India into a digitally empowered nation.

Dr. Neeta Verma, Director General, NIC was the prominent speaker, along with Shri Subhash Chandra Garg, Former Economic Affairs and Power Secretary, Government of India, Shri Puneet Chawla, Chairman & Managing Director, RailTel Corporation of India Limited and Shri Rajeev Mehta, Vice President, Vodafone Idea Ltd during the inaugural session.

In her keynote address, Dr. Neeta Verma highlighted the use of digital technologies in the Centre, States, Panchayats and Village Bodies. Elaborating the association of NIC with the government in their digital initiatives, DG also talked about cloud, digital platforms and the way data & analytics have



helped in building national data repositories. DG said, "We had set up national cloud for the government three years ago. Various projects like Swachh Bharat Mission, National Scholarship Portal, Fertilizer Subsidy, Public Distribution System etc., are built on cloud technology. These platforms give rise to national level data. The interoperability of data between State Governments used to be a topic of discussion. All the data related issues have now been sorted out."

- Shashi Kant Pandey, New Delhi

Hon'ble Chief Minister, Chhattisgarh inaugurates CG AWAAS Single Window System

Shri Bhupesh Baghel, Hon'ble Chief Minister of Chhattisgarh inaugurated 'CG AWAAS' Single Window System developed by NIC for approval of residential colonies, at Chhattisgarh Legislative Assembly premises on 25th November 2019. Through the 'CG AWAAS' Single Window System, Land Diversion Certificates, Approved Documents and Permission for Colony Development will be issued from Single Window within limited time-frame.

Shri Md. Akbar, Hon'ble Housing Minister, Shri Gaurav Dwivedi, Principal Secretary, IT, Smt. Sangeetha P, Secretary, Housing and Environment, Shri Dilip Kumar Debnath, SIO, Shri P. Rama Rao, Senior Technical Director, Shri Rishi K. Rai, Scientist-B, NIC Chhattisgarh and officials of other departments were present on the occasion.

This single window system will make the entire process of getting approval for residential colonies simple, easily accessible and transparent. All the documents can be submitted online through the single window, after which development permis-



sion will be issued within 100-140 days. Earlier, applicants had to run from pillar to post in concerned offices to get information about the status of their application process.

The workflow of Online Single Window Colonizer Approval of Residential Colonies is hosted on the generic Service Plus platform under the guidance of Shri D.C. Misra, DDG, Smt. Manie Khaneja, Sr. TD, Shri Adesh Gupta, TD and Service Plus team.

- Y.V.Shreenivas Rao, Chhattisgarh

NIC provides support to Sri Kartarpur Sahib Corridor project

NIC is the technology partner to the Ministry of Home Affairs for design, development and implementation of the online registration portal i.e., <https://prakash-purb550.mha.gov.in/>, network setup at Integrated Check Post (ICP) and Immigration clearance system for Sri Kartarpur Sahib Corridor project that links the Gurdwara Darbar Sahib in Pakistan to Dera Baba Nanak shrine in Punjab, India.

Developed by NIC-IVFRT team, the online registration portal for pilgrims was launched on 24th October 2019, wherein pilgrims can register themselves online and exercise the choice to travel any day. After successful registration, pilgrims get notified through an SMS and email for the confirmation of registration.

Shri Narendra Modi, Hon'ble Prime Minister inaugurated the Integrated Check Post on 9th November 2019 and flagged off the first batch of pilgrims at Kartarpur Sahib Corridor in Gurdaspur, Punjab. He took a guided tour of the Passenger Terminal setup prior to the inauguration of the Corridor.



The project has been implemented by NIC in a record time and within the deadline of inauguration by the Hon'ble Prime Minister. The entire network infrastructure and immigration control system at Dera Baba Nanak ICP has been set up with operationalization of 56 immigration counters. A total of 562 pilgrims were part of the first 'jatha' who visited Gurdwara Darbar Sahib on the first day of the pilgrimage.

- NIC Media Interaction & Protocol Division



Hon'ble Home Minister, Mizoram inaugurates e-Challan System

Shri Lalchamliana, Hon'ble Home Minister, Mizoram inaugurated the e-Challan system for Traffic Police, Aizawl during an event held at Aizawl Police Station Complex on 13th December 2019. The inauguration programme was attended by officials and staff from Aizawl Police Department, NIC Aizawl, Mizoram and HDFC bank.

The inauguration was chaired by Shri John Neihlaia, IPS, IGP (Hqrs.), Mizoram with a short welcome speech. Shri S.B.K. Singh, IPS, DGP, Mizoram delivered a detailed speech regarding the benefits of e-Challan and appreciated the efforts of NIC for

their hard work. Dr. Ram Krushna Das, State Informatics Officer, NIC Mizoram highlighted the technical aspects of e-Challan. Shri Rodingliana Chawngthu, Sr. SP, Traffic presented the features and demonstrated the workflow of e-Challan.

Other than computer system, the e-Challan system will be implemented on two devices, namely Fablets and PAX A920 ezetap MPOS. Aizawl Traffic Police has 100 Fablets, out of which 20 were already on the run and around 40 challans have been issued so far. Aizawl Traffic Police has also tied up with HDFC bank for online payment wherein the bank has provided with 10 PAX A920 ezetap MPOS devices. The device facilitates ATM card payment for on the spot challans.

- Lalhmachhuani, Mizoram

DG, NIC addresses International Conference on Data Centre India 2019

Dr. Neeta Verma, Director General, NIC was invited as the guest of honor at the 6th edition of 'Data Centre India 2019 - International Conference', held in New Delhi on 20th November 2019. Dr. Neeta Verma, in her address, highlighted the importance of setting up data centres in India and how their growth will continue in the times to come.

Presenting the theme, "The DC of Tomorrow: Hyper converged & Virtualized Network Functions", the conference witnessed participation of speakers from ministries, government organisations and software technology companies. The event brought forward various aspects of next generation data centres and virtual cloud based data centre. Offering a 360 degree view of upcoming trends in data centre infrastructure, the conference served as a dynamic forum for senior executives of leading



enterprises to understand and formulate strategies to enhance their data centre infrastructure in line with business needs.

- Informatics News Desk, NIC-HQ



Digital Transformation Awards 2019: NIC emerges with magnificent triumph

Rewarding the best projects and initiatives of the Centre and State Government to make India digitally empowered, an Awards Ceremony was held during the 3rd Digital Transformation Summit, which was organized by Governance Now at The Lalit Hotel, New Delhi on 6th November 2019.

NIC earned laurels by winning awards for several products and services i.e., Geographic Information System based Polling Station Monitoring System, Panchayat level Dashboard, eOffice Implementation, Digidhan Dashboard, MIS Portal for Scheme of Jan Shikshan Sansthan, Content Management Framework (CMF) project, GRameen Internal Audit Portal, Kottayam District Website, National Company Law Tribunal (NCLT) portal and National Scholarships portal. The Awards were presented by Shri S.N. Tripathi, Director, IIPA and Shri Vinit Goenka, Member Governing Council of CRIS.

It is noteworthy that the applications for Awards were invited from the Central Government and State Government Departments and agencies for their contribution in bringing digital transformation in the delivery of G2G, G2B and G2C services. The ceremony witnessed felicitations for projects implemented in various sectors such as Education, Health, Urban Development, Mobility, Transport, Energy, Power, Finance, Sanitation, Water harvesting, Social Care, Agriculture and Skills Development.



Smt. Shilpa Prabhakar (IAS), Tirunelveli Collector, Shri Devarajan, DIO and Shri Nainar, ADIO, NIC Tirunelveli receiving the Award for Polling Station Monitoring System



Shri Shiv Charan Banerjee, DIO, NIC Ranchi receiving the Award for Panchayat level Dashboard



Shri D Ronald Rose (IAS), District Collector, Mahabubnagar, Shri M Satyanarayana Murthy, DIO, Shri Ravi Bandi, ADIO, NIC Mahabubnagar and Shri Vasudeva Rao, eOffice Manager, Mahabubnagar receiving the Award for e-Office Implementation



Shri IPS Sethi, DDG, NIC HQ, along with DigiDhan Team receiving the Award for DigiDhan Dashboard



Shri K.C. Gupta, JS (MSDE) and Shri IPS Sethi, DDG, NIC HQ, along with NIC Team receiving the Award for MIS portal of Jan Shikshan Sansthan



Shri Mohan Das Viswam, Sr. TD, Shri Shashi Kant Pandey, Scientist-D and Shri Sunil Sunsunwal, Scientist-C, NIC HQ receiving the Award for CMF project



Smt. Manie Khaneja, Sr. TD, along with Team receiving the Award for GRameen Internal Audit Portal



Smt. Beena Ciril Podipara, Sr. TD, NIC Kottayam receiving the Award for Kottayam District Website



Shri Manoj Tuli, Sr. TD, NIC HQ receiving the Award for NCLT project



Shri Shashi Bhushan, Sr. Technical Director and Shri Hanumantha Rao V, Technical Director receiving the Award for National Scholarships Portal

IDC Insights Awards 2019



Shri IPS Sethi, DDG, along with NIC Team receiving the Award for JSS portal

NIC developed portal for Jan Shikshan Sansthan (JSS) Scheme, an initiative of the Ministry of Skill Development & Entrepreneurship, as well as the DigiDhan Dashboard application, developed for the Ministry of Electronics & Information Technology, have won IDC Insights Awards 2019. The Awards were received by Shri IPS Sethi, DDG, along with NIC Team during IDC Insights Awards Summit 2019 held at Taj Airport Hotel, Bengaluru from 5th to 6th December 2019. JSS scheme provides skill development training and linkages with livelihood opportunities for the underprivileged youths of marginalized sections of the society, while DigiDhan Dashboard is a platform enabling accurate reporting and monitoring of digital payments.

NICian felicitated by Hon'ble Governor, Meghalaya



Shri Kernold Basaiawmoit, SSA, NIC Meghalaya being felicitated by the Hon'ble Governor of Meghalaya

Shri Kernold Basaiawmoit, Senior Systems Analyst (SSA), NIC Meghalaya has been honored with a token of appreciation and recognition by Shri Tathagatha Roy, Hon'ble Governor of Meghalaya for his contribution towards the eGov application developed for NCC NER (North Eastern Region) Directorate, Shillong. The Award was presented during the NCC Day 2019 celebration at Raj Bhavan, Shillong on 28th November 2019.

NIC honored with GovInsider Innovation Award 2019, gets international recognition from UNESCAP

NIC has received the prestigious GovInsider Innovation Award 2019 in the category “Best Use of UI and UX Design” for the innovative S3WaaS (Secure, Scalable & Sugamya Website as a Service) Framework. This award is a recognition to the innovative use of design by S3WaaS to improve delivery of citizen-centric information & services and ensure their simple access and understandability for all the citizens, including those with disabilities.

This Award is in partnership with the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and the National Innovation Agency of Thailand. The Award ceremony was held at United Nations Conference Centre, Bangkok, Thailand on 16th October 2019.



NIC Kerala felicitated with Award of Recognition



NIC Kerala Team receiving the Award from Shri Thilothaman P, Hon'ble Minister for Food and Civil Supplies, Government of Kerala

NIC Kerala has been honored with the “Award of Recognition” for the development of the Ration Card Management System, an initiative by the Civil Supplies Department, Kerala. The Award was received by NIC Kerala Team from Shri Thilothaman P, Hon'ble Minister for Food and Civil Supplies, Government of Kerala at a function held in Ernakulam, Kerala on 2nd November 2019.

The Ration Card Management System is one of the five major components of end-to-end computerization of the Public Distribution System. The digitization of beneficiary data in the State was completed in 2016 and presently, there are approximately 86 lakh ration cards. The ration cards were categorized into four types using the ranking software, which was developed and implemented by NIC Kerala.

SIO, Delhi awarded at an International Conference



Shri Iqbal Hasan, SIO, NIC Delhi State Unit receiving the Award

Shri Iqbal Hasan, State Informatics Officer, Delhi State Unit has been conferred an award for NIC's contribution to e-Governance initiatives. The Award was presented at the International Conference on Educational Reforms and Good Governance organized by the International Organization for Education Development (IOED) at India International Centre, New Delhi on 18th October 2019.

IOED is a specialized, internationally accredited Permanent Diplomatic Mission, which is duly recognized and approved by the Cabinet Secretariat, Government of India. The organization has a special extraterritorial status like the United Nations and its agencies. IOED has been working on the Diplomatic Relations with Sovereign Nations, Educational Development (Research and Training), Cultural Relationships and Economic Cooperation.